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THE COMMERCIAL CAR JOURNAL

Volume XXX
Number 4

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PHILADELPHIA, DECEMBER 15, 1925

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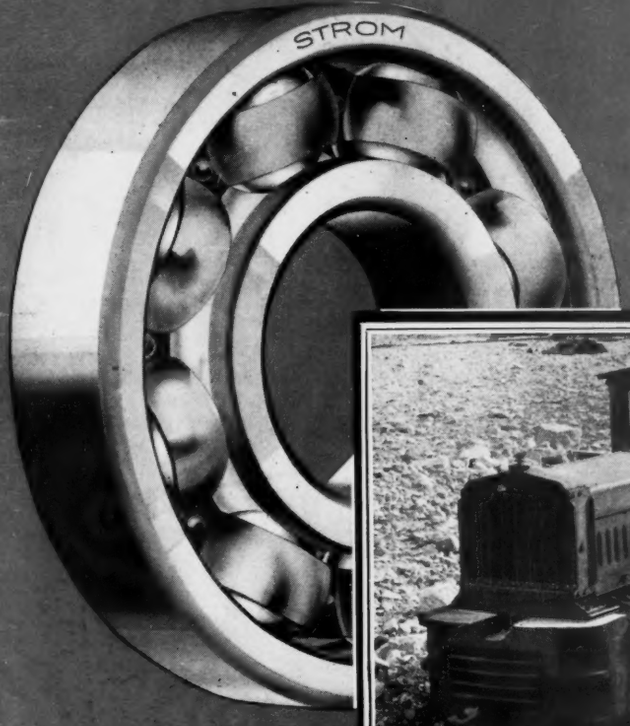

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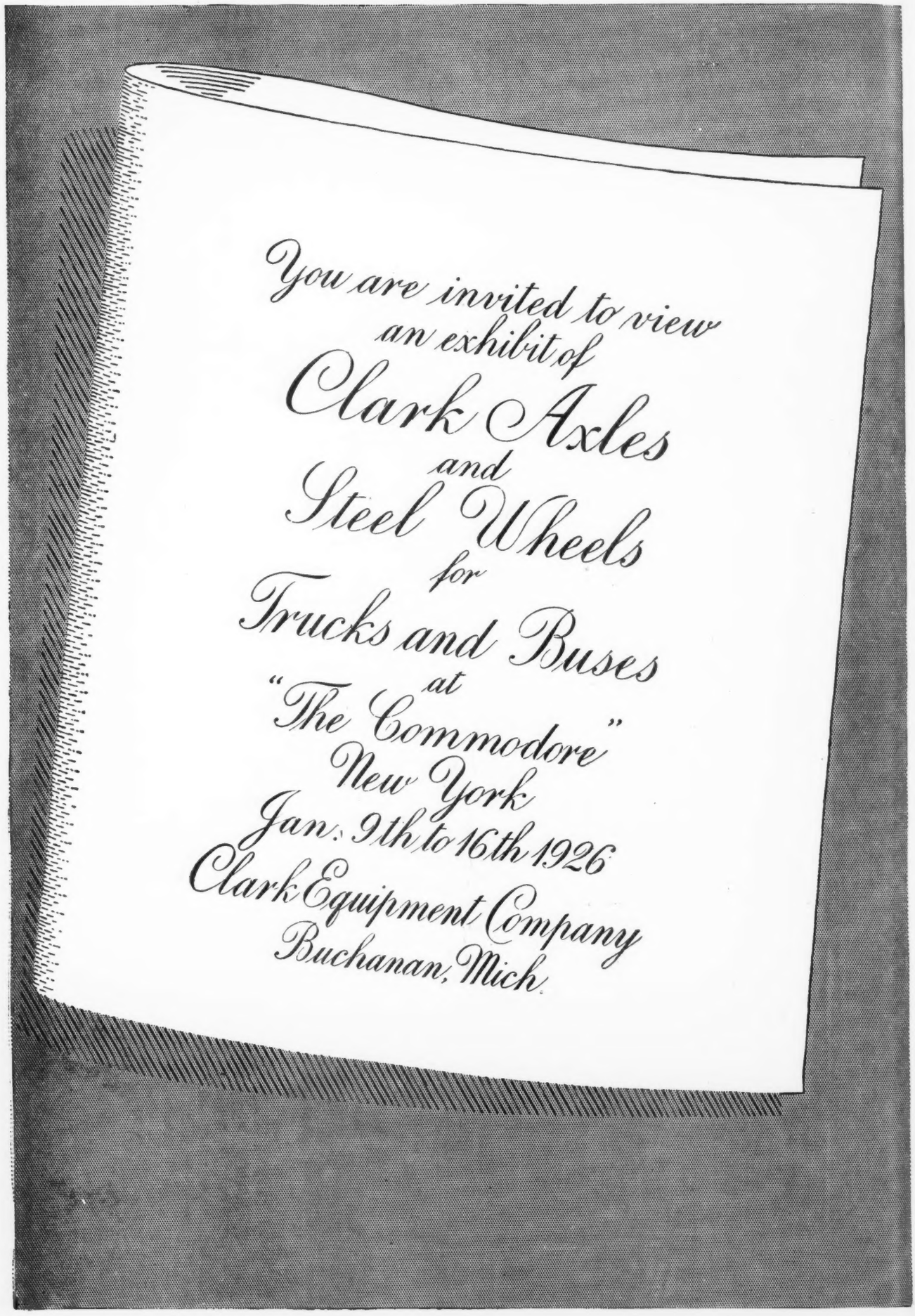
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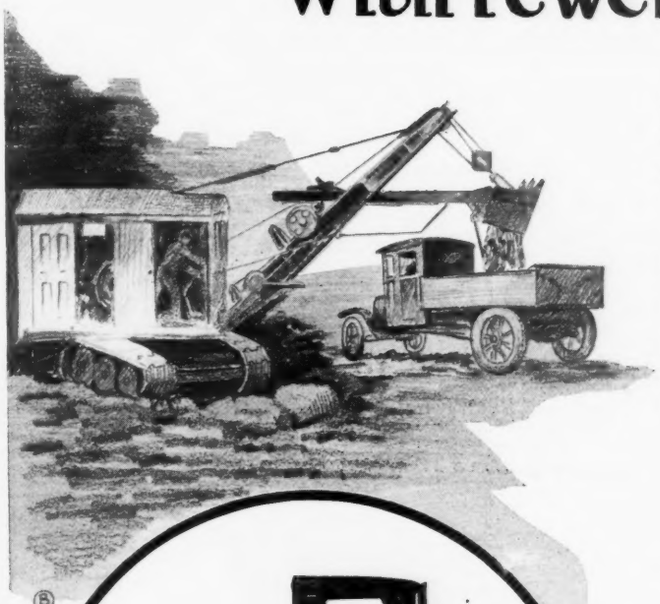

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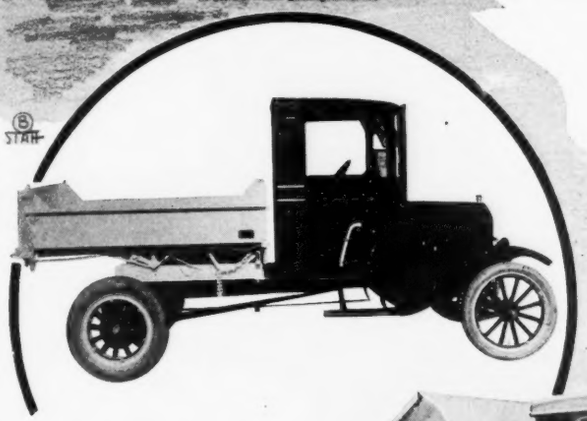

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THE COMMERCIAL CAR JOURNAL

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TABLE OF CONTENTS

LEADING ARTICLES

The "Good Road" is a Business Producer 7
Why Federal Aid Must be Continued 9
11,329 Federal Aid Roads in 1925 10
U. S. Has 500,000 Miles of Surfaced Roads 11
Value of Properly Located Roads to Industry 12
Good Roads Show Will be Record Breaker 13
Description of the Equipment to be Exhibited 14-20
1925 Production Shows 25% Increase 21
Keep the Truck Healthy 22
Making the Service Department Self-Supporting 25
Pictorial Pages 26
Organizing for Service 28
Second Bus Show to be Held in Detroit 54
U. S. G. R. A. Convention June 7-12, 1926 54
Pacific Coast Holds Big Show 55
Dodge Brothers Buys Majority Interest in Graham 55
Truck Standardization Given Impetus 56
N. M. B. A. and A. A. A. Consolidate 58
82 Cities Make Traffic Studies 58
400 Bus Owners Attend Southern Convention 60
Florida Boom Accelerates Truck Sales in the South 60
Statistics Show Bus Magnitude in Wisconsin 62

DEPARTMENTS

Advertising Index 124
Bus Table 44
Coming Events 54
Commercial Car Specifications 33
Editorial 53
News of the Trade 54

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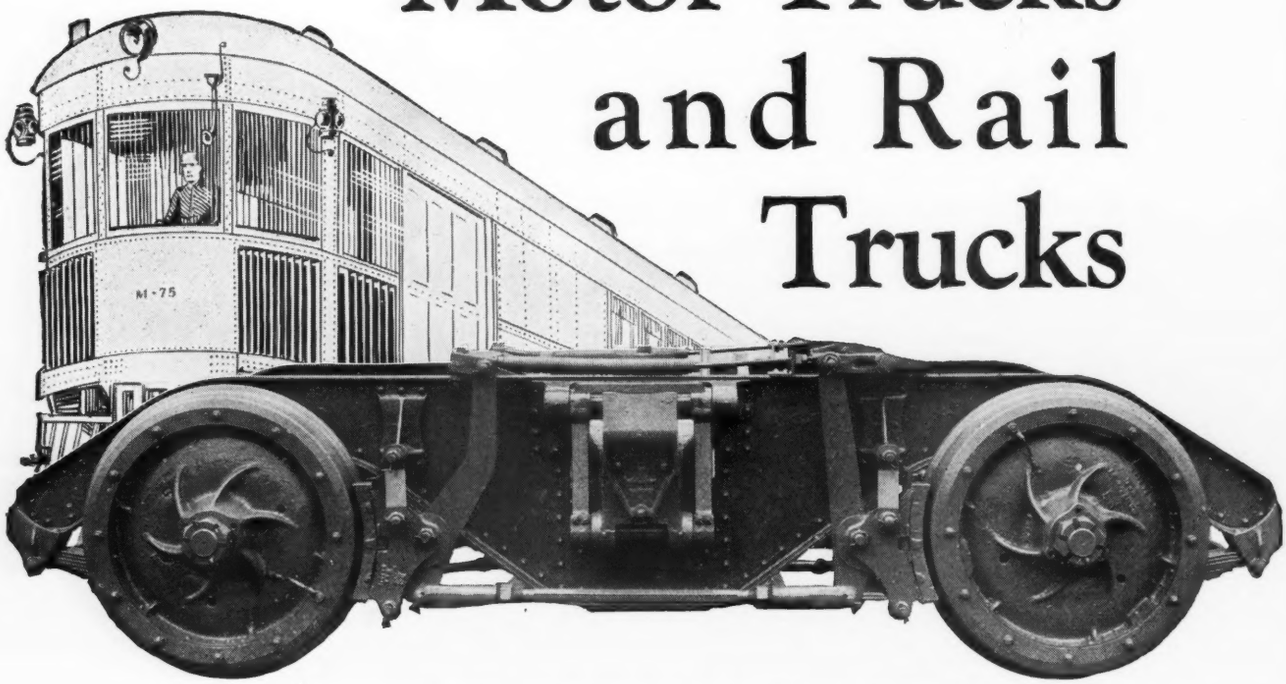
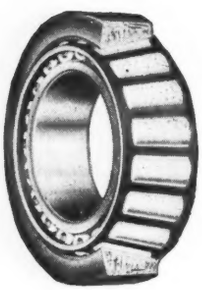
—and other cities

Motor Trucks and Rail Trucks





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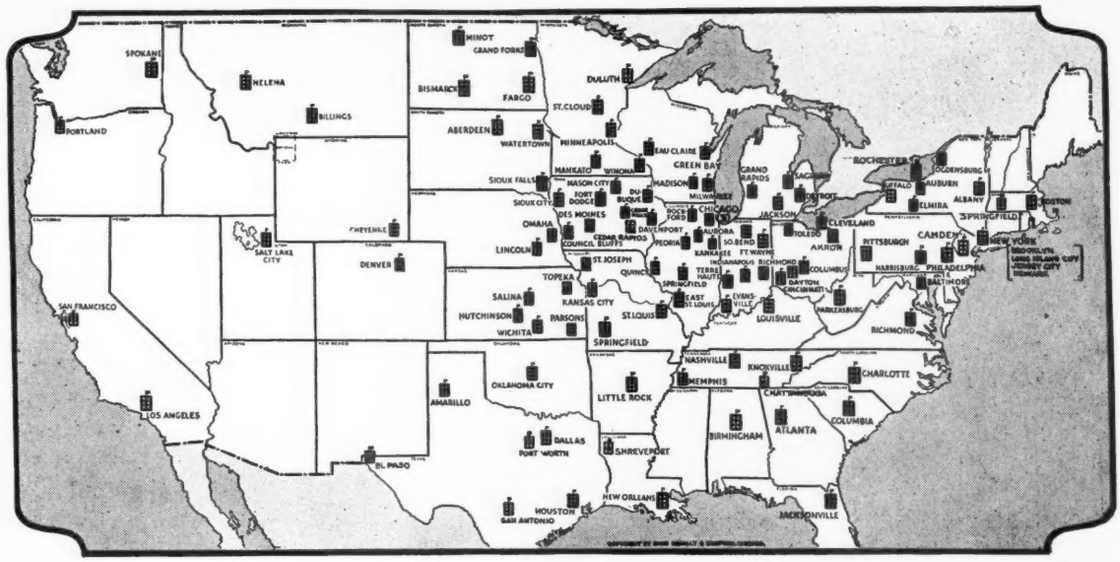

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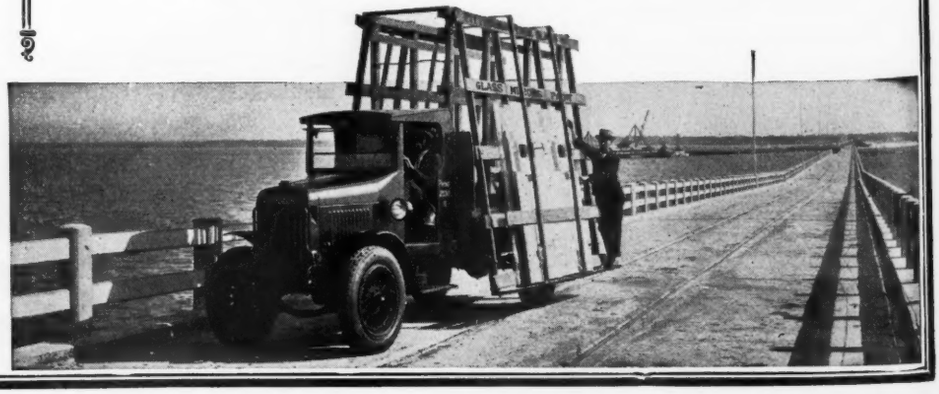


The Commercial Car Journal

VOLUME XXX PHILADELPHIA, DECEMBER 15, 1925 NUMBER 4

THE "GOOD ROAD" IS A BUSINESS PRODUCER

By ALBERT G. METZ

WHEN any organization spends over a billon dollars a year, it's no piker. And when said organization spends that amount on something that benefits over a hundred million human beings, it's doing something which cannot be said to be prompted by an "altruistic" motive. It's doing something for the common good.

That's just what our Federal, state and local governments are doing—spending a billion dollars a year on ROADS!

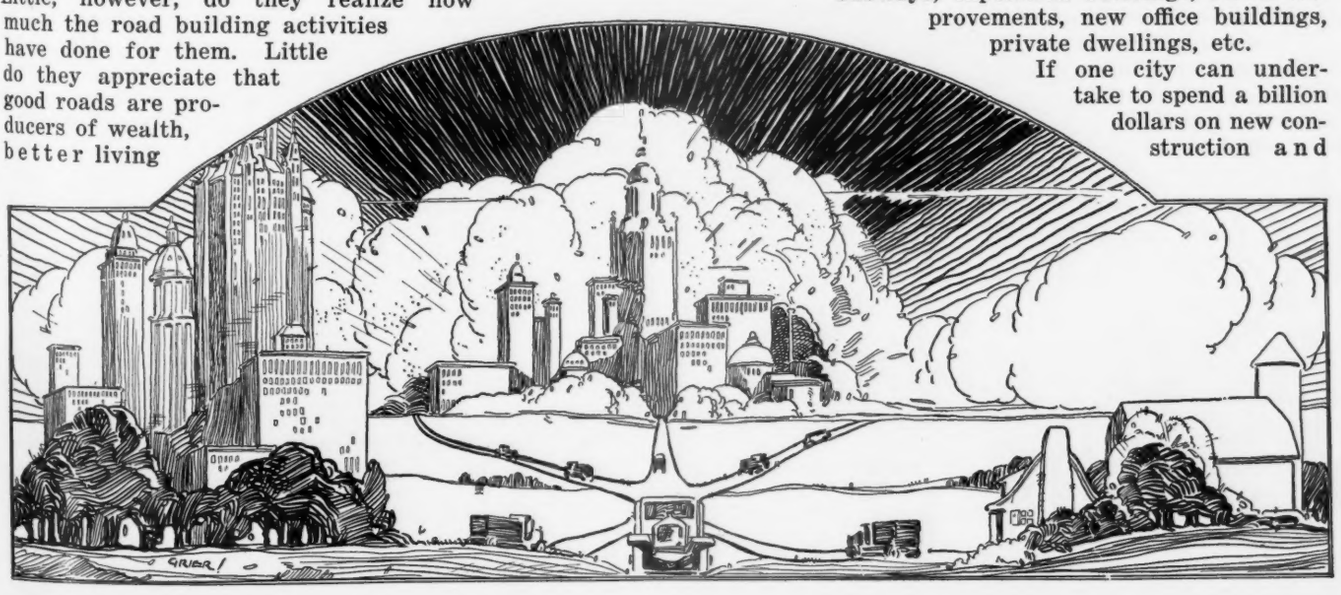
And it's the most profitable investment this country is making to-day. Because, for every dollar this country spends on roads it receives a tenfold return.

Still we have propogandists who are crying for the abolition of Federal Aid; railroad interests who would like to see the road building program of the country curtailed because their passenger revenue has been somewhat reduced and many individuals howl because their taxes will be increased slightly now that the town has voted favorably on a bond issue for hard surfaced roads. Little, however, do they realize how much the road building activities have done for them. Little do they appreciate that good roads are producers of wealth, better living conditions, better education and a better understanding among the peoples of a Nation.

One need not go far in seach for facts that show conclusively what the good road is doing for the individual or the community. Eevery locality into which a good road is built, shows evidence of an increase in business, the development of new enterprises, the building of new homes, new stores and so forth. New life is brought into the community.

Therefore, when we spend a billion dollars a year for road improvement we are spending little enough. To many this sum may seem enormous, but to those who are studying the development of highway building and highway transportation, this sum is not sufficient to keep our highway development from lagging behind the economic demands of motor transportation. Compared to what some cities are doing in the way of construction work, this sum is not at all startling. For instance, in the city of Philadelphia there is under way the construction of over one billion dollars' worth of new projects, including subways, exposition buildings, street improvements, new office buildings, private dwellings, etc.

If one city can undertake to spend a billion dollars on new construction and



improvements certainly the country at large can afford to keep up its program of highway building even if it costs twice that amount a year.

Regardless of the opposition against the building of new roads in some communities, it is always a fact, that after the roads are completed, the biggest kickers become the greatest boosters. A typical example of this sort is quoted from a recent editorial in the Lincoln Highway Forum, which reads as follows:

"It is probable that there was never a longer or more bitter fight in opposition to modern highway improvement than was staged in Marshall county, Iowa, for four years before the proponents of highway improvement won and the county was finally permitted to expend the money provided by a bond issue.

"At every turn the reactionaries, who favored a continuance of the mud and dust from which, alternately, the citizens had suffered for a generation, fought bitterly to the very end and by every legal means endeavored to prevent the modernizing of the county road system.

"Now Marshall county has the larger part of its paving and graveling program for the year completed. This program comprises the concrete pavement of the Lincoln Highway entirely across the county and the graveling of a large mileage of secondary roads. Enough has been accomplished on the program to give the people of the county, including those who bitterly fought the paving, a taste of what modern road construction means. Now Iowa papers are commenting on the satisfaction being expressed even by those who did most to hamper and defeat the program.

Here's What Happened

"The Times Republican, a daily paper in Marshalltown, the largest center in Marshall county and an important point on the Lincoln Highway, recently made a survey of trade conditions in that city on a day of heavy rainfall with a view to ascertaining what effect the improved roads had upon merchandising. It found that the number of people coming into town from all points reached by gravel or paved roads was almost equal to the usual dry weather traffic while there was practically no incoming traffic from those points reached by dirt roads, on that day a sea of gumbo mud.

"The Times Republican states that the better feeling was not confined to the merchants who found their trade vastly improved. The men who use the roads, including those who had opposed them, were highly elated. 'I must admit,' said one farmer who was typical of those within a trading radius of Marshalltown, 'that I opposed the bond issue, but I am glad the paving is in now.'

"It is doubtful if one out of five of those living on the paved Lincoln Highway or graveled side roads of Marshall county would now go back to the dirt roads of the old regime if by so doing they could cancel the bonds and escape twice the amount of the special benefit assessed," says the Council Bluffs, Iowa, Nonpareil.

Herein we find the reason why the continuance of our road building program should go on with ever increasing vigor. There are still hundreds of thousands of people in this country who haven't seen the light of reason in the matter of building better roads. But they are being educated to it, educated to it gradually.

The biggest advantage that the dealer in trucks and passenger cars gains by boosting for better roads no matter where he lives, is that it directly affects his business. Bad roads are a sales resistance.

In connection with truck sales, it stands to reason that poor roads increase the cost of truck operation. Poor roads require the use of oversized vehicles. Poor roads cut down the delivery schedule. Poor roads increase accidents. And so we might go on and enumerate many conditions which are directly apparent because of poor roads.

Therefore, it behooves every dealer and manufacturer of motor trucks to constantly keep in mind the necessity of encouraging the building of more and better roads. Our road building activities must not be allowed to lapse, we must keep on building new roads and reconstructing more and more roads. Any curtailment of our present plans, either by the Federal, state or local governments, would cost the public far more money than needed to make the improvements, or as adequately expressed by Thomas H. MacDonald, Chief of the United States Bureau of Public Roads, "We pay for good roads whether we have them or not, and we pay less if we have them than if we do not."

Importance of Road Maintenance

The building of new roads constitutes a big job in itself, but this is not as important as the maintenance of existing roads. Unless our present and new roads are properly maintained, the billions of dollars that have been spent on our roads will have been wasted.

Road maintenance is one subject upon which the automotive dealer should keep himself well informed, as no matter where he is located he will find road maintenance one of the most important activities of the highway department.

Federal Aid is a familiar story to most of our readers and very little need be said upon the advantages of this road building policy. However, in view of the fact that Federal Aid program is being attacked in some quarters all pressure should be put on Congress to support increased Federal Aid appropriations. The cry of those who cannot see the wisdom of the Government going fifty-fifty with the states is ill founded. As a matter of fact, out of every tax dollar collected by the Federal Government, only 2.3 cents is spent on roads.

Certainly this is a small enough sum—considering the benefit derived from this system of roads.

The surprising part of it is that the motorist has more than paid the total outlay that the Government has made for Federal Aid. Ever since 1918 motorists as a class have paid the Federal Government in the form of excise taxes on automotive vehicles and parts the sum total of $779,385,339. Since the beginning of Federal Aid in 1917 the Government has actually expended $276,305,407 as its share for the construction of Federal Aid highways. In other words the Government has spent less than 36% of the amount it collected in excise taxes. At this rate the Government still owes the motorists over a half billion dollars.

All of which goes to prove that all propaganda, having for its object the curtailment of this country's road building program, shows unprogressiveness. For the next ten years we must keep our road building activities ever on the increase, all the while encouraging the construction of the best and widest roads that engineers know how to build, consistent with the traffic they will be called upon to bear.

The good road is no longer considered of special benefit to the city dweller, while the farmer paid the tax, as used to be the feeling a few years ago. The farmer more than anyone else realizes the advantages which the good road brings to him. What satisfaction would the telephone, the radio, and modern household appliances give to him, if he has to spend most of his time travelling to market over poor roads. It's the good road, the motor truck and the

passenger car that is helping the farmer from becoming isolated in the rural sections, during the winter months. His children no longer are isolated from the urban school. Good roads are doing all this.

And then we must not forget the latest entrant on our highway transportation scheme—the motor bus.

Although in many communities the local roads may be in passable condition and perhaps good enough for the service demanded of them, the motor bus is opening up eyes of many communities who are visualizing the need of better through roads. The main through road is no longer wide enough for the constantly increasing traffic, and the street that once was the main "drag" now becomes the boulevard.

The road that a few years ago was considered wide enough has become a bottle neck. Motor trucks and motor buses have joined the constantly moving stream of automobiles and the number of vehicles are constantly increasing.

What will the condition be five years from now?

In the past five years our roads have become crowded with automotive vehicles. Roads can no longer be built for to-day's needs. We must look forward to the years to come. And five years from now our traffic problems will be no better unless we begin to meet them now. The constant improvement of present roads, the building of new hard surface roads, the widening of present roads, in other words, the continuance of our road building program on a far greater scale than ever is the only way to solve the program.

Don't retard our country's road building program—it's a Business Producer.

WHY Federal Aid Must Be Continued!

1 The growing volume of interstate travel by highway imposes an obligation upon the Federal Government to participate in the improvement of interstate roads, and especially to see that proper connections are made between the highways of the several states.

2 The Federal-aid highway system, designated in accordance with the Federal Highway Act and now consisting of approximately 178,000 miles, is a truly interstate system, there being but little difference in point of importance between those parts of the system designated, in accordance with the law, as primary roads and those parts designated as secondary roads. Both classes with respect to other roads of the country are of primary importance.

3 That with Federal aid and of their own initiative without Federal assistance, the state highway departments have now initially improved practically two-thirds of this system, and it is important that the work of improvement shall be continued without reduction of the program. A considerable part of the mileage thus far initially improved is merely graded and drained as a first step toward the ultimate complete improvement that will be made as the traffic develops and funds become available, and there also remains the elimination of numerous grade crossings, and the strengthening of existing bridges, which necessary work must be done before the system can be considered to be completely improved.

4 That the Federal Government's active participation in the improvement of this limited Federal-aid highway system is essential in a number of states in order to insure the continued application of effort to the improvement of the system. In the absence of the Federal participation it is quite likely that a number of the states would temporarily revert to the system of county control under which no consistent improvement of the roads as a system could be expected. This reversion would, in all probability, be only temporary because there is every likelihood that the mistake of such a situation would be discovered in a very short time, but before that discovery is made the state organizations which have been built up over a period of several years, will have been dissipated, and it would then be necessary to repeat the entire process of organization.

5 That the Federal assistance is absolutely vital to a great territory in the sparsely settled west in which it would be practically impossible to build the roads necessary to connect the more densely settled eastern and far western sections without Government participation, not only because the population of these territories is insufficient to support the road building, but because so large a percentage of the land of the western states is under the control of the Federal Government and not subject to taxation by the states for the purpose of raising the funds necessary for road improvement.

11,329 Miles of Federal-Aid Roads Completed During 1925

ACCORDING to the annual report made by the Secretary of Agriculture William M. Jardine, a greater mileage of Federal-aid roads was completed during the fiscal year 1925 than in any previous year. The aggregate length of the projects completed was 11,329 miles, and the largest previous year's record was less than 10,000 miles. This addition brings the mileage completed since 1917 up to a total of 46,486.

In addition to this completed mileage, which includes only the projects that are entirely completed, there were under construction at the close of the fiscal year other projects the aggregate length of which was 12,463 miles. A very considerable portion of this mileage is actually completed, but will not be so reported until the projects in which this included are completed in their entirety.

The total cost of the projects completed during the year was approximately $243,000,000, of which approximately $111,000,000, or more than 45 per cent, was paid by the Federal Government. The cost of the entire mileage completed from 1917 to date has been more than $845,000,000, and the Federal Government has paid of this total approximately $373,000,000.

This total Federal expenditure over the nine-year period has been large enough to make the Federal participation effective without necessitating extravagant expenditures of State funds to meet it. As the Federal excise taxes on motor vehicles, tires, and motor vehicle accessories have produced since 1918 Federal revenues amounting to $800,000,000, it may be seen that the Federal-aid highway expenditures have been far more than paid by owners of motor vehicles. The same motor-vehicle owners contributed to the State treasuries in license fees and gasoline taxes during the last fiscal year more than sufficient funds to

UNITED STATES DEPARTMENT OF AGRICULTURE

BUREAU OF PUBLIC ROADS

STATUS OF FEDERAL AID HIGHWAY CONSTRUCTION

AS OF

OCTOBER 31, 1925

STATES	FISCAL YEARS 1917-1925			FISCAL YEAR 1926									BALANCE OF FEDERAL AID FUND AVAILABLE FOR NEW PROJECTS
	PROJECTS COMPLETED PRIOR TO JULY 1, 1925			PROJECTS COMPLETED SINCE JUNE 30, 1925			*PROJECTS UNDER CONSTRUCTION			PROJECTS APPROVED FOR CONSTRUCTION			
	TOTAL COST	FEDERAL AID	MILES	TOTAL COST	FEDERAL AID	MILES	ESTIMATED COST	FEDERAL AID ALLOTTED	MILES	ESTIMATED COST	FEDERAL AID ALLOTTED	MILES	
Alabama	$ 5,970,097.71	$ 2,863,197.86	611.9	$ 5,290,651.84	$ 2,495,554.59	293.9	$ 10,322,000.26	$ 5,031,107.84	535.4	$ 378,592.64	$ 175,050.00	11.6	$ 2,243,745.71
Arizona	9,580,133.43	5,016,119.94	613.2	237,926.80	145,397.06	7.1	2,051,812.12	1,308,811.30	166.1	176,977.10	108,150.70	25.7	1,992,862.00
Arkansas	13,310,180.09	5,380,181.73	1048.9	2,641,387.65	1,118,078.04	93.2	5,904,662.02	2,825,489.13	381.9	1,164,378.38	549,903.60	96.4	464,244.50
California	22,346,175.99	10,719,249.61	894.8	1,758,210.30	782,842.66	40.4	10,448,983.86	5,251,917.12	319.5	1,203,924.54	489,986.35	39.3	2,344,113.26
Colorado	11,876,703.94	6,067,814.34	651.2	637,732.65	338,922.67	25.0	4,527,389.17	2,257,693.88	221.9	338,845.90	190,092.34	35.3	2,090,904.77
Connecticut	4,558,639.29	1,819,368.66	101.6	750,965.91	250,212.14	13.4	1,713,128.78	549,559.48	26.9	204,505.29	48,608.15	2.3	1,192,504.57
Delaware	4,281,559.81	1,496,190.65	107.1	455,744.13	212,544.96	12.3	980,042.66	388,784.75	22.6				10,912.65
Florida	2,959,273.72	1,405,487.97	96.3				8,970,318.13	4,370,709.60	281.7	1,991,337.04	650,530.77	41.5	761,040.69
Georgia	20,156,002.37	9,406,366.46	1478.3	2,039,093.60	981,054.44	121.0	11,092,111.41	5,226,115.36	705.1	1,170,995.66	483,749.27	87.9	343,478.47
Idaho	9,394,676.80	4,815,332.26	600.1	176,117.58	101,367.48	21.0	2,750,264.23	1,733,255.24	177.0	933,074.03	562,087.44	41.2	410,935.58
Illinois	40,010,481.10	18,640,076.28	1236.2	689,967.89	340,741.22	25.0	8,644,745.27	4,189,261.40	290.9				3,486,503.10
Indiana	13,639,172.65	6,562,455.68	422.1	1,132,976.57	544,542.84	41.2	17,594,862.01	8,240,153.23	479.8	832,279.23	413,698.33	25.8	507,614.92
Iowa	27,272,285.21	11,107,492.99	1396.9	722,462.52	320,365.06	35.5	7,272,120.64	3,265,326.98	457.5	1,480,053.73	699,848.90	144.3	2,032,060.07
Kansas	26,399,695.77	9,755,273.32	831.4	2,784,450.08	1,213,748.87	146.4	10,670,447.84	4,512,216.72	547.9	1,787,131.43	605,704.68	104.6	1,405,301.41
Kentucky	14,832,324.28	6,205,994.59	584.9	1,556,093.80	653,291.14	46.9	7,871,365.04	3,511,429.76	310.0	517,209.81	258,604.89	27.3	1,156,679.62
Louisiana	11,939,424.97	5,279,870.86	927.6	875,723.58	411,312.04	65.0	2,772,603.62	1,325,240.49	108.8	582,979.67	290,987.40	21.9	964,233.21
Maine	8,174,281.31	3,907,970.33	281.4	173,275.15	85,733.59	6.6	1,311,335.31	551,490.38	42.2	976,766.16	394,636.81	35.6	841,532.89
Maryland	8,132,506.90	3,849,383.15	294.4	368,826.12	177,191.15	14.7	2,814,750.06	1,244,591.15	126.3				19,267.55
Massachusetts	14,047,656.22	5,467,661.28	300.6	505,080.98	165,015.60	11.0	6,155,325.67	1,629,813.05	96.9	523,237.49	173,035.13	8.1	1,584,145.94
Michigan	16,234,000.80	7,328,316.91	612.6	5,227,433.17	2,405,657.00	208.7	12,044,705.07	5,523,127.54	328.5	433,069.40	158,370.99	0.3	2,709,474.16
Minnesota	30,415,685.89	12,738,642.04	2721.2	3,960,542.83	1,506,322.07	279.5	7,353,175.06	2,998,700.00	608.9	1,023,293.92	171,600.00	44.9	156,347.89
Mississippi	10,292,285.79	4,988,702.73	803.4	1,134,270.59	566,407.24	83.6	8,337,386.37	4,162,437.53	437.0	1,083,118.42	541,559.18	61.1	575,708.32
Missouri	17,368,156.57	8,219,411.43	1118.9	2,830,765.80	1,363,795.71	121.5	25,921,368.10	10,264,311.41	763.8	1,362,237.84	115,523.89	32.3	416,546.56
Montana	10,156,600.41	5,317,523.15	921.8	607,162.46	474,072.98	57.9	1,948,094.85	1,344,221.16	196.3	1,003,571.06	544,458.41	117.9	4,192,949.30
Nebraska	9,306,374.36	4,389,523.50	1570.6	1,362,105.81	660,957.40	117.0	8,961,990.25	4,247,216.75	887.7	2,420,926.89	1,190,961.25	213.4	2,458,438.10
Nevada	4,917,465.69	3,088,299.78	357.3	176,699.88	131,175.94	18.2	5,394,643.05	4,528,235.45	468.2	44,370.41	38,921.72	5.6	60,264.11
New Hampshire	4,165,687.86	1,986,226.87	208.1	126,519.20	56,312.01	5.0	1,265,074.57	593,106.22	40.4				168,221.30
New Jersey	11,961,357.45	3,820,679.99	219.1	870,702.97	207,502.78	10.3	9,870,567.74	3,453,916.40	81.2				60,612.83
New Mexico	8,717,999.18	4,914,070.61	1081.3	2,455,289.19	1,661,290.55	212.1	2,346,169.27	1,460,967.04	216.2	272,777.67	190,930.39	17.4	1,567,863.41
New York	28,597,769.67	12,229,076.53	831.5	3,991,290.54	1,562,381.59	100.1	33,598,825.75	10,621,551.55	661.6	7,123,300.00	1,746,285.00	116.5	4,238,734.33
North Carolina	21,014,450.41	8,746,454.59	1119.8	2,371,883.81	1,007,858.84	67.1	8,215,648.74	3,469,733.08	199.4	1,787,907.60	762,380.84	45.0	22,224.65
North Dakota	10,829,263.82	5,268,930.47	1917.5	590,070.30	294,904.52	142.2	4,135,034.60	2,087,553.65	525.1	920,498.80	442,127.40	91.4	1,461,422.86
Ohio	41,572,252.81	15,244,993.93	1191.1	1,854,219.12	649,259.37	56.7	12,171,583.58	4,626,722.20	373.6	1,938,733.00	626,940.22	47.0	1,867,843.29
Oklahoma	20,787,024.94	9,672,890.34	852.2	1,558,181.95	698,604.70	57.4	7,116,638.73	3,399,770.16	333.5	811,141.53	275,053.59	31.5	261,223.21
Oregon	14,388,138.70	7,142,364.63	794.5	751,059.58	399,368.06	34.5	3,232,666.00	1,896,373.99	170.9	508,920.95	137,767.25	23.1	130,528.18
Pennsylvania	43,054,935.19	16,222,023.97	850.3	2,657,611.93	834,606.72	49.5	36,004,538.70	9,640,406.57	651.5	2,463,989.12	826,309.13	61.8	469,514.51
Rhode Island	2,628,496.20	1,119,688.09	64.8				2,543,268.84	681,939.59	37.3	263,012.75	63,135.00	4.2	437,191.32
South Carolina	11,163,347.94	5,121,267.54	1235.9	1,061,972.51	357,678.74	58.5	6,010,468.96	2,824,091.69	328.9	957,481.91	378,231.95	61.5	68,261.08
South Dakota	12,091,434.67	5,999,979.00	1447.9	1,535,493.16	743,311.55	152.2	6,588,931.26	3,107,824.85	936.1	86,427.58	48,425.04	14.0	55,151.56
Tennessee	13,789,140.98	6,732,079.77	497.9	2,555,128.53	1,261,638.03	84.4	9,992,530.24	4,427,733.01	337.8	241,502.80	119,851.60	11.3	1,120,969.59
Texas	54,120,970.93	21,057,940.12	3907.1	5,787,896.50	2,328,239.90	327.9	21,993,492.49	9,586,400.94	1265.6	4,914,240.46	2,212,696.79	323.1	994,536.35
Utah	6,259,159.41	3,818,936.91	423.1	132,178.99	99,980.35	5.9	3,224,624.68	2,193,526.23	255.5	325,575.07	246,654.73	16.9	611,529.78
Vermont	3,015,174.51	1,452,894.45	107.9	178,569.08	89,218.34	3.3	1,906,002.42	841,367.56	43.0	77,750.79	38,875.39	3.3	480,526.26
Virginia	13,099,720.01	6,271,998.20	676.2	4,061,686.06	1,923,691.94	162.2	7,223,621.89	3,162,998.69	229.9	1,415,814.00	607,931.27	51.7	89,142.00
Washington	13,352,504.18	6,117,211.97	526.7	1,964,825.31	855,987.39	87.7	2,426,786.31	1,115,400.00	74.9				927,196.74
West Virginia	7,343,200.96	3,230,293.33	326.7	252,564.30	123,013.99	12.9	6,774,986.54	2,713,659.25	179.1	981,982.41	367,090.29	35.2	113,513.24
Wisconsin	21,807,140.91	8,919,540.62	1451.7	107,355.47	53,526.17	6.6	5,950,782.11	2,876,686.58	281.4	621,435.40	312,333.00	40.6	3,406,366.63
Wyoming	8,905,919.33	4,739,096.57	982.0	854,988.57	521,673.58	80.3	3,409,927.94	2,141,606.24	221.4	73,606.61	47,255.00	9.9	181,048.51
Hawaii							342,277.22	97,440.00	6.5				637,088.00
TOTALS	740,140,790.92	325,654,346.00	41898.3	73,404,251.66	33,175,152.79	3663.6	389,553,019.33	167,497,682.59	16359.6	47,413,974.29	18,206,344.08	2230.7	53,716,474.54

* Includes projects reported completed (final vouchers not yet paid) totaling: Estimated cost $ 96,991,426.65 Federal aid $ 43,376,227.96 Miles 4172.4

pay the States' share of the cost of the Federal-aid roads in all States with the exception of New Mexico.

In the roads completed during the year all approved types of construction are represented. Gravel roads, of which there were 4,203 miles, constitute the largest single class. The completed mileage of all types was as follows:

	Miles Completed
Graded and drained earth roads	2,064
Sand-clay roads	719
Gravel roads	4,203
Water-bound macadam roads	129
Bituminous macadam roads	912
Bituminous concrete roads	341
Portland cement concrete roads	2,807
Brick roads	107
Bridges (over 20 feet in span)	47
Total	11,329

One of the most important projects recently completed is the Wendover cut-off across the Great Salt Lake Desert between Salt Lake City and the Nevada line. The completion of this road brings to a successful conclusion a five-year effort to bridge the obstacle to transcontinental travel which has always been presented by the salt desert. Its construction could not have been undertaken but for the financial assistance offered by the Federal Government; and the flow of interstate travel which has already begun between Salt Lake City and northern and central California is one of the outstanding evidences of the necessity for Federal participation with the States in interstate highway construction.

Do You Live in an All-Night Town?

WHAT highway building is doing for the country town is discussed by the Banning (Riverside County) Cal., Record. Twenty years ago the present State highway was a dusty street, now it is a busy, paved business section. From a sleepy village Banning has changed to an "all-night town."

Says the Record:

Banning has made a "hit" with travelers by maintaining night and day service. The motorist at any hour may obtain here everything from a quart of oil to a spare tire or a midnight lunch. The bright lights of the city welcome the traveler from out of the darkness and stillness of the desert and one can almost hear the chimes playing "Home, Sweet Home."

Truckmen appreciate the night service to the full extent. These men leave the Imperial Valley late in the day and make the long run into Los Angeles at night, arriving there with perishables for the early morning market.

The importance of Banning as a supply station has only begun. Its development in this line will be steady.

U. S. HAS 500,000 MILES OF SURFACED ROADS

THE mileage of surfaced roads in the United States is nearing the 500,000 mark, according to the Bureau of Public Roads of the United States Department of Agriculture. Some weeks ago the State reports indicated that there were 128,347 miles of surfaced road on the State systems at the end of 1924, and similar subsequent reports from the States indicated that mileage of surfaced county roads was 339,558, making a total of 467,905 miles. While it is probable that the estimate of county roads is not so accurate as that of the State roads, the above figure is probably not too large.

Since 31,541 miles of road was surfaced in 1924 by the States and counties, and it is known that progress has been equally as good in 1925, it is probable that the construction season now drawing to a close will increase the surfaced mileage to more than 495,000. In this estimate allowance was made for a portion of the year's work being resurfacing or higher improvement of roads previously reported as surfaced.

In addition to surfaced roads a considerable mileage has been graded and drained according to engineering standards. There were 236,294 miles of such road at the end of 1924, and of this 13,689 miles had been constructed during that year. These figures indicate that the improved road mileage of all classes is not far from 740,000.

The following table gives the status of road improvement in the various States at the end of 1924:

State	Total Rural Mileage	Surfaced State Roads Dec. 31, 1924	Surfaced County Roads Dec. 31, 1924
Alabama	61,501	1,652	10,858
Arizona	22,355	1,368	1,693
Arkansas	74,865	2,864	2,974
California	75,618	3,231	12,031
Colorado	67,620	3,403	5,341
Connecticut	12,218	1,668	743
Delaware	4,410	418	280
Florida	28,413	2,055	6,944
Georgia	98,364	2,326	16,862
Idaho	34,816	1,498	9,470
Illinois	96,328	3,417	10,756
Indiana	80,533	3,777	36,112
Iowa	104,624	2,667	2,061
Kansas	129,125	837	573
Kentucky	68,704	2,249	14,817
Louisiana	39,803	3,401	1,277
Maine	20,939	1,184	2,780
Maryland	14,886	2,247	2,110
Massachusetts	19,098	1,502	5,807
Michigan	77,283	5,871	15,126
Minnesota	107,816	5,471	16,839
Mississippi	56,880	2,374	6,867
Missouri	112,100	1,660	7,875
Montana	67,176	720	210
Nebraska	87,291	927	214
Nevada	22,778	590	315
New Hampshire	13,088	1,111	116
New Jersey	17,719	1,011	6,440
New Mexico	47,030	1,477	934
New York	81,873	9,280	15,259
North Carolina	67,906	5,310	12,839
North Dakota	106,498	573	482
Ohio	84,532	5,740	27,841
Oklahoma	134,262	1,368	300
Oregon	49,770	2,827	7,293
Pennsylvania	92,020	6,854	9,245
Rhode Island	2,319	406	245
South Carolina	64,408	3,090	5,991
South Dakota	115,805	1,476	538
Tenessee	64,726	2,480	9,853
Texas	167,685	7,227	11,822
Utah	23,381	940	2,014
Vermont	14,861	2,868	1,613
Virginia	59,872	2,438	4,924
Washington	48,883	2,318	14,207
West Virginia	35,434	961	716
Wisconsin	78,964	8,500	15,937
Wyoming	46,319	710	.14
Total	3,002,916	128,347	339,558

THE VALUE OF PROPERLY LOCATED HARD SURFACED ROADS TO THE AUTOMOTIVE INDUSTRY

By W. H. CONNELL, President, American Road Builders Association

PENNSYLVANIA owners and operators of motor vehicles will save $33,710,000 annually as a result of new road construction by the Pennsylvania Department of Highways from 1911 to 1925, through the replacement of 4,000 miles of dirt roads with hard surfaced roads and the shortening of the distances to be travelled by about 100 miles through relocations. This saving is made up of $28,800,000 saved in motor vehicle operating costs on hard surfaced roads instead of dirt roads, (exclusive of the value of the time saved which obviously is stupendous but incalculable) and $4,910,000 saved in motor vehicles operating costs (also not including the value of time saved) by shortened distances.

Value of Hard Surfaced Roads

There is an accepted principle that no highway should be constructed at a cost in excess of its earning capacity. There can be developed from the facts evolved from the Pennsylvania Transport Survey a definite return to the public in dollars and cents on any section of highway, just as the return in dollars and cents can be shown on a section of railroad. The only difference is that the railroad's earning capacity is based on charging certain sums for transporting commodities and passengers, while the paved highway's earning capacity is based *on saving definite sums to the people* using the highways for transporting commodities and passengers. The economics of highway transportation is in its infancy and there is yet to be formulated a comprehensive statement of the facts embracing all the factors entering into the earning capacity of a paved highway.

Transportation costs vary, depending upon the character of road surfacing. For instance, it is generally accepted from tests that have been made throughout the country, that it costs about 40 per cent more for the fuel to operate a motor vehicle on dirt roads than on smooth hard surfaced roads. The items of motor vehicle transportation costs which are affected by the character of the road surfaces include depreciation, repairs, tires, oil and gasoline. Taking all of these factors into consideration, it is estimated that the total additional transportation costs for motor vehicles operated on dirt roads as compared with hard surfaced roads is 25 per cent.

From this it can be readily seen that where there is any appreciable amount of traffic using a dirt road, the saving in the operating costs for these vehicles on hard surfaced roads as compared with dirt roads would justify the construction of a hard surfaced road. For example, assuming an average operating cost per mile of passenger cars on hard surfaced roads of ten cents, and an average operating cost of trucks of thirty-six cents, and an average traffic of 1,000 vehicles a day consisting of 90 per cent passenger cars and 10 per cent trucks, and operating costs on dirt roads 25 per cent more than on hard surfaced roads, the annual saving in operating costs per miles per year would be $11,500.

W. H. CONNELL
Engineering executive and acting-secretary, Pennsylvania Department of Highways. President American Road Builders Association

The annual cost including interest, sinking fund and maintenance on a pavement costing $50,000 per mile would be only about $4,800 per mile. From this should be deducted the maintenance cost of the dirt road replaced, or about $500 per year. The additional cost therefore, under these circumstances, to the traveling public by the use of dirt roads as compared with hard surfaced roads is $7,200 per mile per year. The saving on 4,000 miles totals $28,800,000.

The additional cost in operating motor vehicles over dirt roads as compared with hard surfaced roads is only part of the cost due to delayed construction. For several months of the year the dirt roads are not travelable at all and during this time the inconvenience and loss to the people who are dependent upon these roads, if reduced to dollars and cents, would amount to a very considerable sum of money per year.

Proper Location of Highways

While the economics of the road surfacing is a very important factor, the economics of the highway location is also of very considerable importance. The highways, like the railroads, lead from one center of population to another. The through routes in particular should be located with a view to carrying the traffic to and from the different centers of population by the shortest route and over roads with reasonable grades and curvature for motor transportation. Most of the roads were laid out for local horse-drawn traffic without much consideration being given to selecting the shortest route between distant points. The old highways, therefore, are not as a rule on the economic location.

In general, in Pennsylvania the location of the state highways is fixed by legislative enactments which enumerate the principal points connected by the routes. Between these points the Department has wide powers of relocation and uses these to establish locations which will best serve the greatest number, the general principle being kept in mind that the state highway routes are essentially through routes.

It is not necessary to continue to adhere to a location of a route through a point fixed by Legislature if it is not the logical location for a through route, provided a spur is built by the State from the route to the point fixed by Legislature. It will be readily observed that this enables the Department to locate the through routes to the best advantage to the State as a whole by eliminating minor centers of population in instances where it would increase the distance considerably to pass through these communities.

The policy of relocating through-route highways with a view to providing the

logical shortest route sometimes leads to a sacrifice of local interests for the general good and while it is difficult for local communities to reconcile themselves to the highway being routed around their community instead of through the main street, when they are built for through traffic, the only sound policy is to build them in the most economic location for all the users.

The average motor transportation cost to the highway users for each thousand feet over a hard surfaced road is approximately $.023 for each vehicle. The cost, therefore, of one thousand vehicles a day would be $23.00, or $8,395.00 per year, or approximately $167,900 over a period of twenty years. This clearly indicates the necessity of shortening the distance where practical, on a through-route highway. Many relocations are made that result in shortening the distance over a mile. Based on the figures stated, the saving to the users in transportation costs for each mile would be approximately $44,300 per year, or $886,000 over a period of twenty years. These figures are based on 90 per cent passenger traffic and 10 per cent truck traffic.

On the Pennsylvania state highway system the relocations thus far have resulted in a saving of approximately one hundred miles. With an average traffic of one thousand vehicles a day, the saving in operating costs is approximately $4,430,000 per year. To this should be added $480,000, which is the average annual cost of one hundred miles of pavement and is made up of the interest on the investment sinking fund requirements for bond issue, and the maintenance costs, making a total annual saving, due to reducing the distance by one hundred miles, on the Pennsylvania Highway system, of $4,910,000.

Users Should Pay for the Road

The saving of operation costs on a properly located hard surfaced highway as compared with the old fashioned Indian trail dirt road that twists and turns and unnecessarily increase the distance, is so great that the fees which are paid by the motoring public for these benefits are merely a nominal charge. The most equitable policy to provide for the construction, maintenance and all the other costs of state highways is to distribute the cost among the users of the highway. The state highways constitute the highway transportation system of the respective states and this policy places the highway transportation system on the same plane with steam railroads, electric railways and other public service corporations whose revenue is received directly from the users. The charge to the user is widely distributed through business channels and is reflected in the price to the consumer of practically every commodity, so that this policy merely distributes the cost of the operation of highway, steam railroad, electric railway transportation systems and other public service activities.

Pennsylvania today is operating on a basis whereby motor receipts are used exclusively for highway purposes, and these funds pay the entire costs of all construction and maintenance as well as all Departmental salaries and wages—in fact, all highway expenses. New construction is financed principally by bond issues, but the interest and sinking fund charges are paid from the motor receipts.

Without hard surface roads there would be virtually no highway transportation and this means of transportation is the greatest public benefit of this generation. Even though it can be credited to the automotive industry, the industry has greatly benefitted by this development and should be the first to recognize that if the policy adopted by the State of Pennsylvania, namely that the user pays for the road, becomes universal, the production of hard surface roads will increase throughout the country.

GOOD ROADS SHOW WILL BE A RECORD BREAKER

ANYONE who has ever attended a Good Roads Show, as held under the auspices of the American Road Builders' Association, must agree that this show constitutes the outstanding event of the year's show calendar.

For nowhere is there a show held that draws a greater number of buyers than the Good Roads Show. Year after year this event has grown, so that each year the problem presents itself of taking care of the swarm of exhibitors that desire space.

The coming show to be held in January 11th to 15th, is no exception. Over 250 concerns have signed up for space, while approximately 300 carloads of machinery valued at $2,000,000 will be placed on display. Many concerns are forced to take 50 per cent of the space they hoped to occupy while some who had planned to show some of their products must be content with sufficient space to show only their literature. It is expected that fully 30,000 people will attend the coming show and convention. It will undoubtedly be the greatest ever held in the world.

The Convention will be held during Good Roads Week which will be sponsored by many road building organizations and recognized by Chambers of Commerce, Civic Clubs and local organizations throughout the country.

Governors of all the States have been invited to appoint official delegates to attend the convention.

One day will be set aside in honor of the visiting delegates from foreign countries. Last year, over twenty foreign countries sent delegates, and it is expected with the increased road activities in the South and Central American countries that large delegations will attend the Road Show. The local celebrations, as well as the Chicago convention and exposition, are expected to add a great stimulus to the Nation's program of highway improvement now so closely allied and interwoven with the development of the automotive industry.

The Convention Program

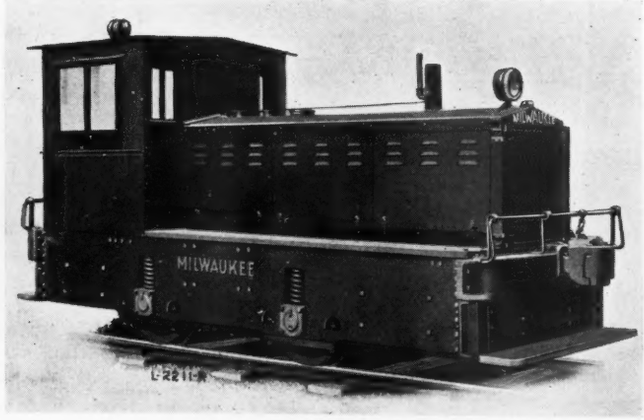
W. H. Connell, president of the association announces that the convention program will be divided in two sections; one especially interesting to highway engineers and the other to highway constructors. Those who will take part in the program are men selected from all over the United States who have had a great deal of experience in the particular subjects that they are going to present. The program will consist of controversal subjects and matters that are claiming the attention of the engineers and contractors throughout the country. Among some of the subjects that will be presented and discussed are as follows:

Highway Finance.
Highway Location.
Highway Routes Through Cities.
Highway Safety.
Future Development of Motor Vehicles.
Governing Factors in the Selection of Pavement Types.
Recent Developments in Concrete Pavements.
Recent Developments in Bituminous Pavements.
Highway Operation and Maintenance.
Snow Removal.
Surface Treatment of Highways.
Making Contracting Business Pay.
Estimating Road Contracts.
Cost Accounting.
Contractors' Qualifications.
Operating Methods.
Increased Costs Due to Improper Fine.
Grading Methods.
Relative Merits of Handling Materials.
Economics of Standardization of Equipment.
How to Stop Cement Overrun.
Winter Letting of Road Work.
Relations Between Engineers and Contractors.
One-Sided Clauses in Public Works Specifications.

Recently a joint board on interstate highways has recommended the designation of approximately 50,000 miles of United States highways. This will in reality become a national highway system. This system will be constructed, maintained, operated and marked by the States in which it is located. This will be one of the subjects to be discussed at the convention.

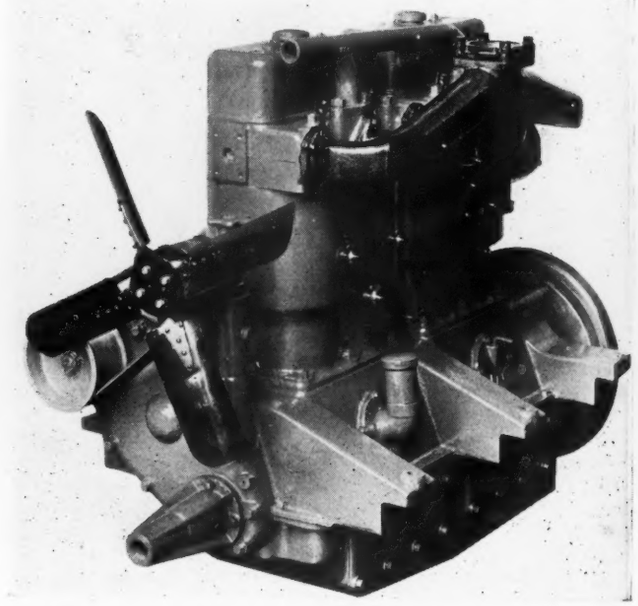
Gasoline Engine Powered Equipment Will Predominate at the Show

How Much the Gasoline Engine is Responsible for the Development of Road Building Apparatus is Indicated by the Fact That Practically Every Piece of Machinery That Requires Mechanical Power to Operate It is Now Powered by the Internal-Combustion Engine



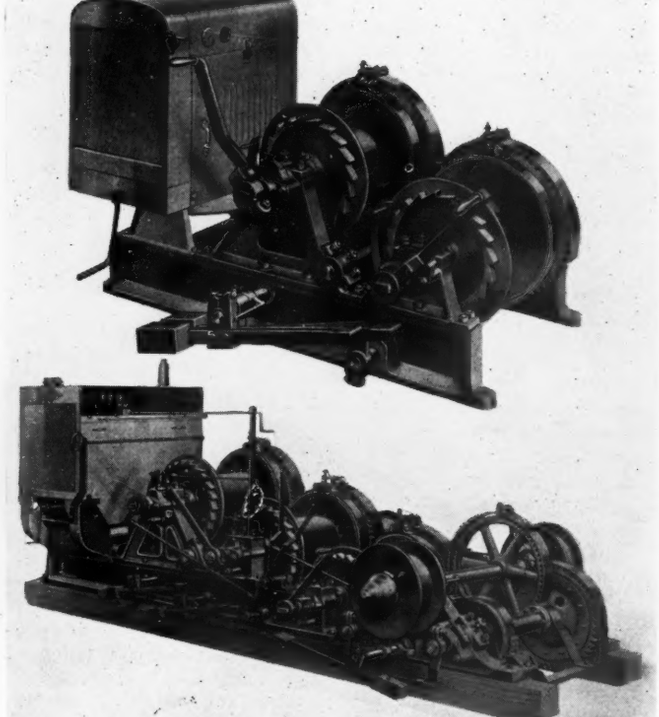
New Milwaukee Locomotive is powered with a six-cylinder Beaver Engine

The locomotives illustrated on this page are a few of the makes which will be seen at the show. All the locomotives are gasoline engine powered.



Beaver Model RB. 4 Cyl. 6 x 7 Industrial Engine

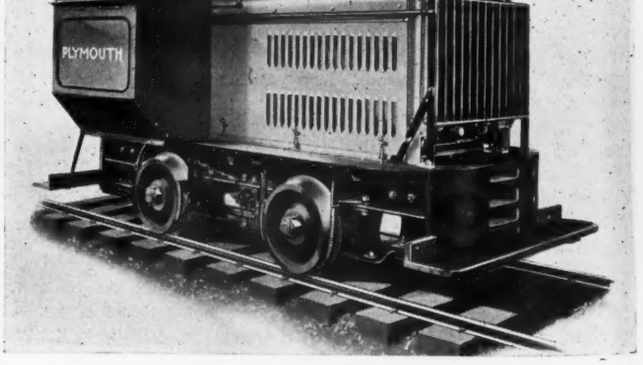
The Beaver Manufacturing Co. will show three models at the show. The engine illustrated has been designd for installations requiring from 70 to 130 h.p. in the industrial field.



Clyde Gasoline Operated Hoists

The upper illustration shows a 15 h.p. job and the lower a 60 h.p.

Details on page 15.



Plymouth 12-Ton Gasoline Locomotive

The Fate-Root-Heath Co. (Plymouth Locomotive Works), has recently brought out a new locomotive, known as model JLB, weighing 12 tons. It is built in all gages from 23⅝ to 56½ in. with a wheelbase of 63 in. Length, overall, 15 ft. 8 in. Height 9 ft. 10 in. The frame is of all-steel construction with cast-steel bumpers. The locomotive is powered with Buda six-cylinder engine 4½ in. bore by 6 in. stroke, developing 88 hp. at 1400 r. p. m., equipped with Leece-Neville 12-volt starter with Bendix drive and Willard battery. Bosch magneto, Stromberg carburetor, United air cleaner, Pierce governor and Modine sectional radiator are standard equipment.

New Milwaukee Locomotives

The Milwaukee Locomotive Mfg. Co. has just added two new sizes of gasoline locomotives to its type H line. These new locomotives are 18 and 20-ton machines, are built for all gauges of track from 30 to 56½ in. and have inside wheels.

These latest 18 and 20-ton sizes are of the four speed gear and chain drive type and are geared for four speeds of 2, 4, 6 and 12 m. p. h. both forward and reverse. It is powered with a Beaver six-cylinder heavy duty type, having overhead valves, forced feed oiling and being equipped with maximum speed regulating governor.

Dragline Motor Truck Mounted Cranes

The Universal Crane Company, pioneer builders of truck cranes, are the builders of a dragline truck crane. The dragline machine is capable of handling both the dragline and clamshell bucket as well as hoist block, magnet, etc.

The accompanying illustration shows a dragline unit, truck mounted, handling a half-yard excavating dragline bucket on a 28 ft. boom. This machine is claimed to give exceptional swing speed, beside possessing all the factors of mobility, and high-grade construction. It is operated from the operator's position in the front of the crane, where he has a clear view of his work, and only has four easy hand levers and one foot pedal to control the crane. The crane is also transferable to other types of mounting such as railroad flat car, steel wheel yard truck, heavy duty rubber-tired trailer and continuous tread crawler truck, when job conditions require them.

J. D. Adams & Co. will exhibit road graders and continuous motion picture illustrating road building and maintenance methods.

Universal Crane mounted on motor truck operating dragline

The Bay City 16-B Convertible excavator equipped with back-acting trench bucket for sewer pipe line or ditch excavations

These are examples of the large equipment which will be shown by many concerns at the Good Roads Show. Besides exhibiting immense concrete mixers, excavators, utility cranes, etc., in the Coliseum quite a few manufacturers have arranged for actual demonstrations in the lot adjoining the show building.

The Trailmobile with model Z-5-D hand operated roll-off end body

This is a five-ton outfit, and as shown is handled by a Fordson tractor. The body holds 3 yards at water level, or an actual weight of 4 to 5 tons level of sand, gravel, broken rock and heavy materials. Crowning the load may increase the weight of pay load to approximately 6 tons. Extra sideboards are provided for use when hauling bulky and light materials, such as coal and coke, making the load capacity 4¼ yards level. The movements of the body are: First, sliding and second, tipping. There is no lifting the load. This is easily and quickly accomplished by a simple hand operated mechanism. The body rests on rollers. To dump the body it is merely necessary to move it backwards until the weight of the body of the frame over balances and causes the body to tilt.

Clyde Will Feature Gas Hoists

Clyde Iron Works Sales Company calls attention to the unusually interesting variety of gas hoists which they will exhibit. The hoists to be shown are the 15, 35 and 60 hp. gas units. The 15 hp. hoist is of the double drum type incorporating many new features designed to fit all the needs of contractors. The 35 hp. hoist as well as possessing all the features of the 15 hp. hoist is larger, being equipped with a special Waukesha motor. The 60 hp. power hoist which is to be displayed has three drums in the waterfall arrangement, together with a bull wheel swinging gear. This machine is especially designed for operating a clam-shell bucket, but can be used for any other derrick or hoisting operation. Besides the foregoing, an electric capstan car-puller of entirely new design will be shown.

The Conneaut Shovel Co. will exhibit all the different types of hand shovels they make. A new addition to the line is an automobile shovel as illustrated.

Heil Dump Bodies and Hoists

The Heil Co. will exhibit a number of bodies of special interest to contractors.

The Heil Rock Excavating Body which is very popular in the east has a subframe of structural steel laid on a floor of 2 in. wooden planks. On top of this there is a 3/16 in. steel plate in one piece. Bolts are countersunk so that there is no obstruction in the floor of the body whatsoever.

The sides consist of two sections; the lower section 18 in. high and the upper 6 in. The upper board is removable. The 18 in. sides are covered on the outside with No. 22 gage black steel stock to give protection to the boards and to provide a space for lettering. The inside is made of 3/16 in. steel. The tail-gates are made either 18 or 24 in. high and are hinged 8 in. forward so as to give a wide opening for rock. The gate is provided with a special locking arrangement whereby it can be tripped at the top and allowed to swing down to 180 degrees. This enables the operator to dump huge rock which would not go through the tailgate.

Another body to be shown is a recent innovation of a semi-trailer unit, a Mack truck equipped with a Warner semi-trailer on which is mounted a Heil 8 yd. body and No. 6 hoist. The power is taken off through the truck power take-off and is delivered through the fifth wheel of the trailer by a special transmission to the hoist. The advantage claimed for this semi-trailer dump unit lies in the greater load which can be carried by the truck. This is of particular importance for contractors in that laws governing weight loads are becoming more and more strict.

A Heil batch body with a Heil hydro hoist mounted on a 2½-ton truck, will also be shown. Attention is called to the swinging partition which was originally developed by the Heil Co. in 1921 and is since then improved.

The use of a pin formerly on the bottom of the partition to hold it in place in the body has been discontinued. Now a hook is furnished on the forward side of the partition which passes over an angle bolted to the side. This does away with the opening in the floor of the body and thus prevents sand leaking out through the holes. Moreover, the partition always operates positively.

On this body the corner plate tailgate construction consists of a gusset designed for two purposes. First, to stiffen the gate and to keep it from spreading sideways and second, to act as a bumper or guard for the operating device hook which is shown protruding through the tailgate casting.

Robert Bosch Exhibit

In addition to its well known line of original Bosch magnetos and spark plugs the Robert Bosch Magneto Company, Inc., is exhibiting a line of constant voltage generators in a variety of sizes, and starting motors with automatic engagement mechanism, suitable for a wide variety of requirements where ability to operate over long periods and under bad weather conditions are essential.

The generator is of the cylindrical shell, four pole type, and armature running on annular ball bearings. Both voltage regulator and battery cutout are mounted on the commutator housing, and are quickly movable for inspection. This is supplied for either six or twelve volts and can be furnished with S. A. E. standard cradle or flange mounting. This generator may be used to operate lights directly, without the use of a battery, if desired.

The Highland Body Mfg. Co. will exhibit its well known cabs with all the latest improvements

These Highland cabs are designed to give the driver all the freedom of an open cab with the advantages of a closed cab when necessary. The exhibit will be in charge of Samuel Froome and Charles J. Stoll, eastern sales representative, and the chief executives from the home office.

Fuller & Johnson Electric Light Units

The Fuller & Johnson Mfg. Co., engine specialists, Madison, Wisconsin, are now marketing through their own sales organization, the Power & Light Units which they have been manufacturing for a number of years. These plants are built in three sizes, as described below.

A representative line of plants especially adapted to the construction field will be displayed. These plants are built for direct lighting and can be operated either with or without the use of storage batteries.

The No. 8, 850-watt unit, is very similar in design to the No. 15. Both are direct connected, the generator being mounted on the engine crankshaft. Either kerosene or gasoline can be used as fuel. The engines are air cooled. A throttle governor insures uniform speed of the engine, regardless of the load.

The No. 35 unit consists of a two-cylinder gasoline engine, direct connected to a 3500-watt, 110-volt, generator. The engine is equipped with magneto ignition and is radiator cooled.

In addition to these electric light plants, model AB multi-cylinder and model NB single cylinder engines will be shown. Both of these models are built especially for industrial work.

Waukesha Power Units

The Waukesha Motor Company will exhibit its complete line of industrial engines and complete power units which are now used in thirty-two different industries, many of which are allied with the construction of good roads, such as power shovels, back fillers, ditchers, road pavers, concrete mixers, industrial locomotives and trucks. Included in the exhibit will be a new industrial unit—model V—with a 4-cylinder 4 x 5 motor developing at governed speed 35 to 40 b. h. p.

On the left is shown the Heil Rock Excavating Body. Note the tail-gate arrangement. The elevated body at the right shows the Heil batch body with Heil Hydro hoist. See text for details

Loadometer Has Improvement

The Black & Decker Mfg. Co. will feature its new improved Black & Decker Loadometer. Many improvements have been embodied in this loadometer since its last showing in Chicago, chief among which are a zero correction screw, making it possible to correctly calibrate instruments in a moment's time; a lever valve which may be thrown in a "on" or "off" position and when in "off" position relieves the gage from sudden shock caused by heavy truck wheels mounting upon platform; a diamond tread on the gradual approaches to the platform eliminating the possibility of tire slipping, and the heavy guard at the inside edge of the platform to protect the gage from damage should a loadometer be placed incorrectly under the wheels.

Perfex Heavy Duty Radiators

Two new additions to the Perfex line of radiators will be shown by the Racine Radiator Company. One is a heavy duty industrial type for engines of 75-100 hp. The top and bottom tanks and side members are of cast iron and the cores held in place by a bolt at the top and the bottom, and are readily interchanged, if necessary, on account of accident or when replacement is necessary.

The bronze core is made of a plurality of individual tubes, each of which is made of one piece of material, thus reducing the number of seams by 50 per cent.

The other new radiator is a heavy duty special type for road building trucks. This radiator is constructed of core and tank assembly and fitted in a heavy one piece pressed shell which fastens to the truck frame and takes all of the weaves and strains. The same heavy duty type of core as used in the sectional type of radiator is also employed here. This radiator is made for various sizes and makes of engines, and is engineered to meet the specific requirments of any width of frame or size of truck to be manufactured.

New Buhl Type Y Portable Compressor

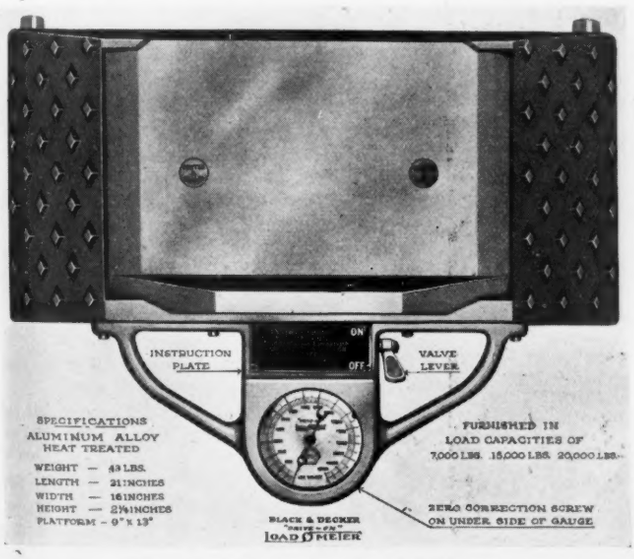
The Buhl Company has just recently announced a new multiple cylinder compressor unit known as the Buhl type Y. It is furnished in 115 cu. ft. and 160 cu. ft. displacement. Briefly, it consists of a two-cylinder compressor connected to a heavy duty industrial type engine through a unique specially designed flexible coupling. As standard, the units are mounted on four-wheel trucks with steel enclosure.

Humphryes Pumping Equipment

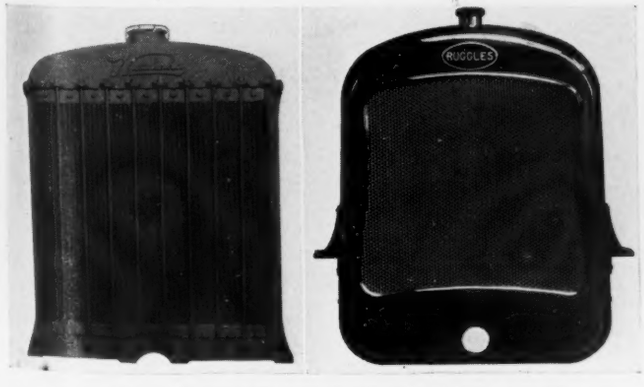
The Humphryes Manufacturing Co. will exhibit its new lift and force trench pump No. 960, which is just being put on the market. It is powered with a Le Roi engine.

The pump is sturdily constructed of compact design and easily portable. They can be supplied with diaphragms or outside packed plungers. The field of usefulness of a lift and force pump is really double that of the open diaphragm pump. Water can be lifted twenty-five feet by suction and then forced beyond the pump through a discharge hose or pipe. By disconnecting the discharge line, the pump is suitable for open diaphragm work.

The Elgin Sales Corp. will exhibit the 1926 model of its Elgin motor pick-up sweeper. This is a machine that sprays the street to settle the dust, cleans out the gutter, sweeps the pavement, picks up the dirt and carts it away. It is operated by one man. For smaller cities this model is a complete street cleaning department in itself.



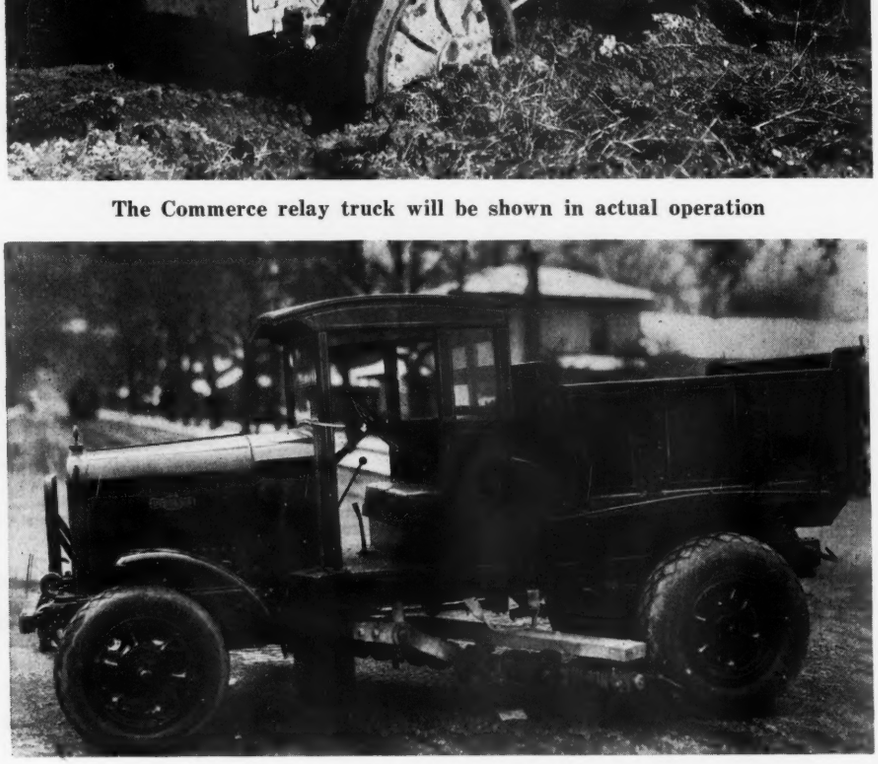
The Black & Decker Load-O-Meter



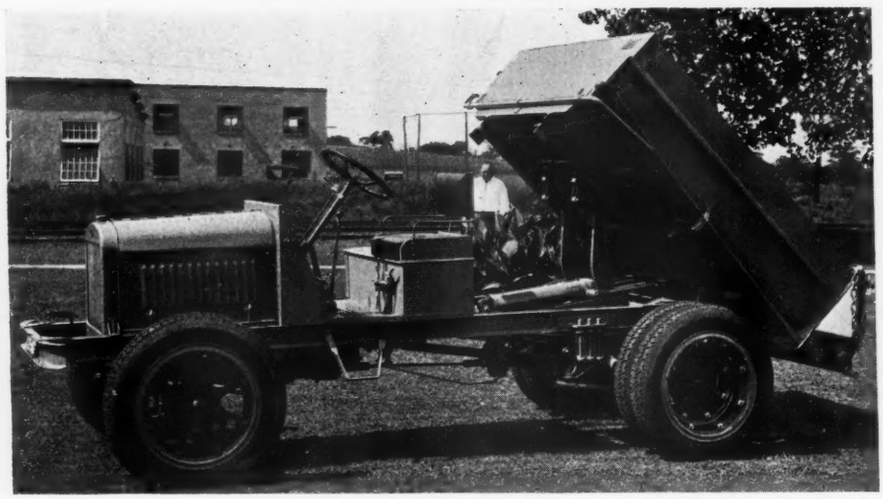
New heavy duty radiators by Racine Radiator Co.

Gasoline engine trench pumping equipment by Humphryes

The Commerce relay truck will be shown in actual operation



The Indiana model 15-A road builders special



New Hug Roadbuilder

The new model H4K Roadbuilder truck now being introduced by the Hug Co. embodies the proved principles of a practical roadbuilder's own design. These are combined with heavy duty construction to give the roadbuilder a hydraulic dump body and Hug chassis with a capacity up to 7500 pounds. Like all Hug trucks, the new model combines speed, efficiency and endurance with its load capacity. Dual tires are standard equipment on the rear wheels in order to protect the subgrade from damage due to heavy loads. Besides this model the Hug Company will show the model HA-2 truck, the Hug turntable and its subgrading machine.

The Commerce Relay Drive Truck

The Commerce Motor Truck Company will show for the first time to the general public its relay drive truck.

The Commerce relay drive is considered by many of the most prominent engineers and operators throughout the country to be the most remarkable features developed in the automotive industry since the advent of the self-starter.

The proof of the usefulness of any unit, whether it be a new type of collar button or new type of truck, is in actual use. Arrangements have been made to show their relay truck in actual operation as well as in the show.

A demonstration field has been chosen not very far from the Coliseum and a duplicate of the truck on display at the show will be demonstrated under actual operation conditions.

Contractors and engineers alike are extremely interested in this new type of drive which has been undergoing very extensive tests in the hands of users for the last five years.

Features claimed by the Commerce Truck Company for their relay drive include 114 per cent more power to the wheels than can be obtained by any conventional drive and riding comfort on solid tires far superior to that obtained with pneumatics. Thirty-five miles an hour without damage to the chassis or to solid tires while the flexible drive makes it almost impossible to damage gears, universal joints or any power transmitting parts.

Indiana Road Builders Special

The Indiana Truck Corp. will exhibit its model 41 Big Steve—4 to 5-ton chassis, also model 15-A Road Builder's Special with two yard body equipped with horizontal body hoist, together with a road scraper or what is known as a Michigan anti-chatter bump machine.

The Road Builder's Special, model 15-A, is powered with a four-cylinder 4 x 5 in. engine. The wheelbase is 118 in. Tires are pneumatic, front 30 x 5, rear 36 x 8. The rear axle is worm drive semi-floating type. Transmission is of three speed selective type, mounted in unit with the engine.

Standard equipment includes Boyce motometer, front fenders, step, jack, set of tools, wood bumper and metal radiator guard, one man seat, oil pressure gage. The gear ratio—standard 7.80 to 1. Speed—24 m. p. h. The gasoline tank, located under the cowl, has a capacity of 14 gal. The weight, complete with body, is 5313 lbs. Chassis weight 4013 lbs. Length of body 6 ft.

Walter Snow Fighting Units

The Walter Motor Truck Co., Inc., will exhibit the Walter snow fighter, special highway type with 100 hp. 6-cylinder engine, also a Walter combination snow fighter and flusher.

The highway type, because of its ability to travel at a comparatively high rate of speed, from 25 to 30 miles an hour, is especially suitable for fighting snow on state highways.

GMC Truck One Batch Road Builders Special

General Motors Truck Company will have an exhibit in space No. 29 on the main floor of the Coliseum where they will exhibit the GMC One Batch Road Builder's Special, a speedy, rugged truck specially designed for this industry. In addition, a special two batch truck will also be exhibited.

H. H. Howard, special representative of the general sales manager, an expert on highway building equipment and a staff of other GMC officials will be in charge of the exhibit.

Buda Model JH Engine

The Buda Company has brought out a new model JH engine, having a 6 in. bore and 7⅛ in. stroke. This engine is the largest of their four-cylinder group and is designed with the same heavy duty construction as employed on their other engines, using the same pressure feed oiling system with the oil tubes cast direct in the crankcase.

The model JH engine is equipped with detachable type bell housing and can be supplied with either the standard No. 1 S. A. E. mounting or can be furnished with the Nos. 1, 0 and 00 S. A. E. bell housing of the integral pedestal type. The construction and mounting of this engine makes it especially adaptable to all industrial installations.

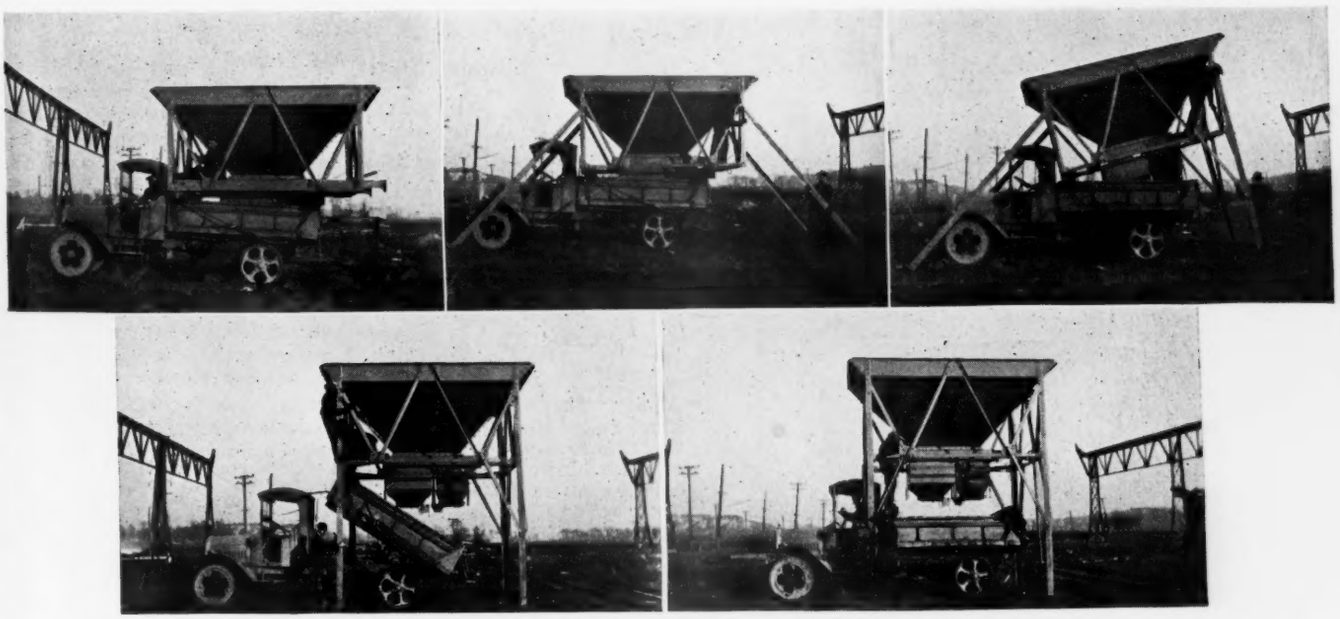
The White Company will have an especially interesting motor truck exhibit, including the latest model White heavy duty dump truck, a 3½-ton White tractor and one of the standard White rear axle units showing the double reduction gear drive with working parts visible. In addition an extensive illuminated photographic exhibit of White trucks in road building service will be shown.

The International Model D with gravity dump body

This model will be featured by the International Harvester Co. They will also show model 63, 6000 lb. two compartment body and the McCormick-Deering industrial tractor for use with road graders.

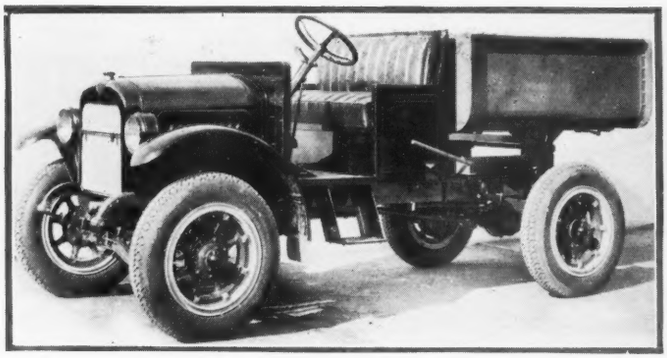
Autocar 3-ton contractors' dump truck

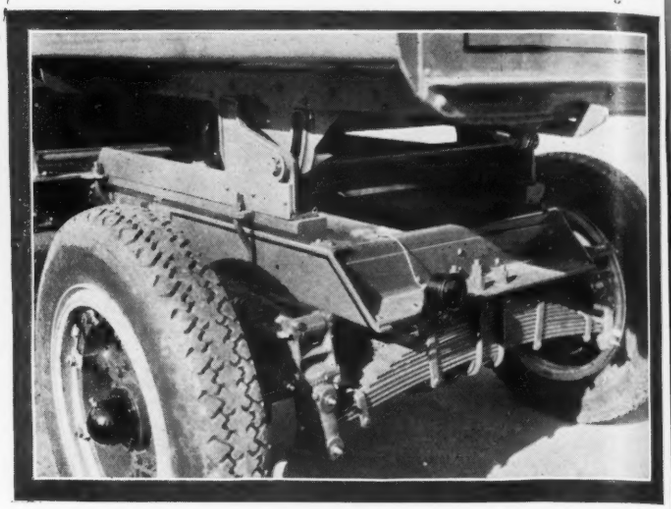
The Autocar Company will exhibit its model HPDS contractors' 3-ton Autocar dump truck. This is a four cylinder job, with 114 in. wheelbase. The weight over all is 17,000 lbs. including chassis, body and load. The four speed transmission has a special low gear ratio with direct on fourth.



Here's a new idea—Transporting bin and measuring hoppers by motor truck

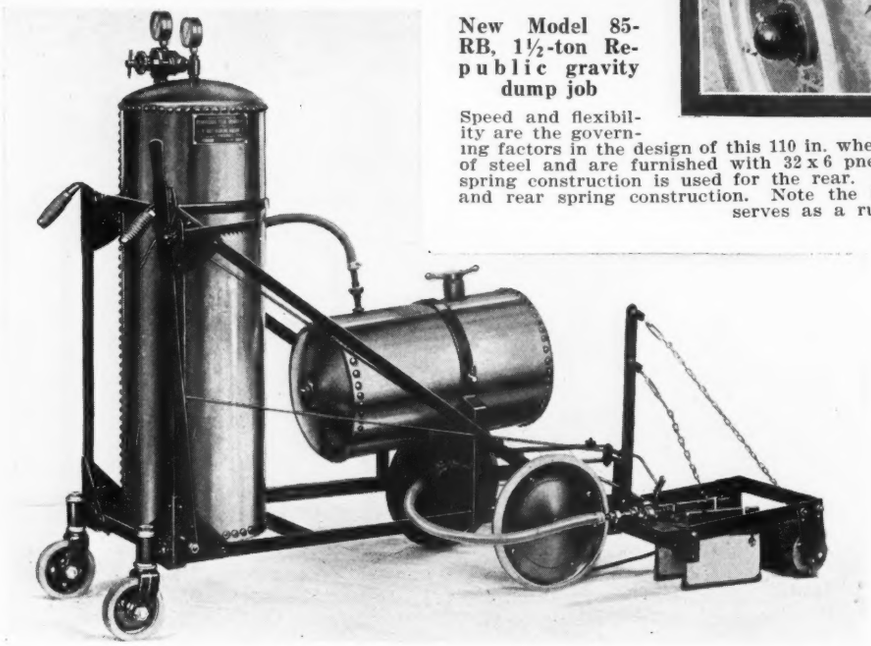
The Butler Bin Company's exhibit will consist of a set of batch measuring devices and a hopper for proportioning batches by weight, also a model of a steel bin and numerous pictures of different installations. A storage bin of 20 cu. yd. capacity will probably be exhibited in the vacant lot south of the Coliseum. There the method will be demonstrated by which the bin and measuring hoppers can be transported from one location to another on a truck and erected and dismantled with the hoist of the dump truck and without the use of a crane or gin pole.





New Model 85-RB, 1½-ton Republic gravity dump job

Speed and flexibility are the governing factors in the design of this 110 in. wheelbase job. It carries 1½ yards. The wheels are of steel and are furnished with 32 x 6 pneumatic tires as standard equipment. Platform spring construction is used for the rear. The close-up view shows more clearly the end and rear spring construction. Note the heavy transverse spring and angle iron which serves as a rugged cross member



Ault "Traffic Line" Marking Machine

Above: The expansion wedge devices are driven into the steel wheel rim, thus creating an expanding action which firmly seats the rubber tire on the wheels

Left: The French & Hecht wheel being placed into the rubber tire

Ault Traffic Line Marker

The Tennessee Tool Works, Inc., will exhibit two traffic line marking machines, model B for city traffic lines and model C for highway work. Both models include improvements.

This machine is designed for rapid painting of traffic, safety and special zone lines, three to eight in. wide. Extra attachment for direct spraying on fire plugs, guard rails, bridges, etc.

The Alexander Milburn Company will exhibit the Milburn 30-pound portable acetylene generator and the Milburn oil burner and preheater, also a complete line of welding and cutting apparatus.

The Simons Paint Spray Brush Co. will exhibit a complete line of air spray brushes and air compressor equipment.

New French & Hecht Wheel

French & Hecht will show its recently developed patented built-up steel expansion wheel, designed for hard rubber tires and for operation on motor trucks, trailers, tractors, rubber tired road graders, rubber tired mowers, etc.

These wheels differ from the usual solid types in that they are much lighter in weight. The solid steel spokes are forged, while hot, into the hub, and have heads formed on the inside of the hub and shoulders on the outside producing a spoke fastening similar to that of a boiler rivet. The spokes are firmly riveted into the wheel rim, and are placed in a trussed (not straight) position. This construction produces a wheel light in weight and yet possessed of the essential factor of strength and sturdiness.

The wheel rims are provided with patented expansion wedge devices which not only absorb the variation in the inside dimensions of hard rubber tires, but make it possible, without the use of hydraulic presses, to mount or remove rubber tires merely by the use of a hammer and ordinary wrench.

1925 TRUCK PRODUCTION SHOWS 29% INCREASE

Outlook for 1926 Best in the History of the Industry. Light Trucks Make Biggest Gain. Nearly Half Million Trucks Built This Year

ALTHOUGH the year 1925 has not yet come to a close, a check up on the final results of this year's truck production program indicates that 1925 will be a record breaker, to the tune of approximately 110,000 more commercial cars than last year.

The average production per month for the first ten months of 1925, is 41,927 trucks, or approximately 42,000. However, because of the unusual increase shown for October, we have conservatively estimated the November and December production, at 35,000 and 32,500 units respectively. This gives us a total for the year of 486,777 units. Subtracting last year's total we obtain 109,433 units or 29 per cent.

Much of this increased production is due no doubt to Ford, but on the other hand practically every representative truck manufacturer has shown substantial gains. In fact a number of the manufacturers of light trucks have shown very remarkable gains. Even if the Ford figures swelled the total this year, at least 50,000 trucks of non-Ford makes are accounted for in the gain made. Furthermore the motor bus has also increased the production figures by about 15,000.

Parts manufacturers for the past five months have all been satisfied with the truck market, which is a good sign and probably one of the best barometers upon which to size up the truck industry's activities.

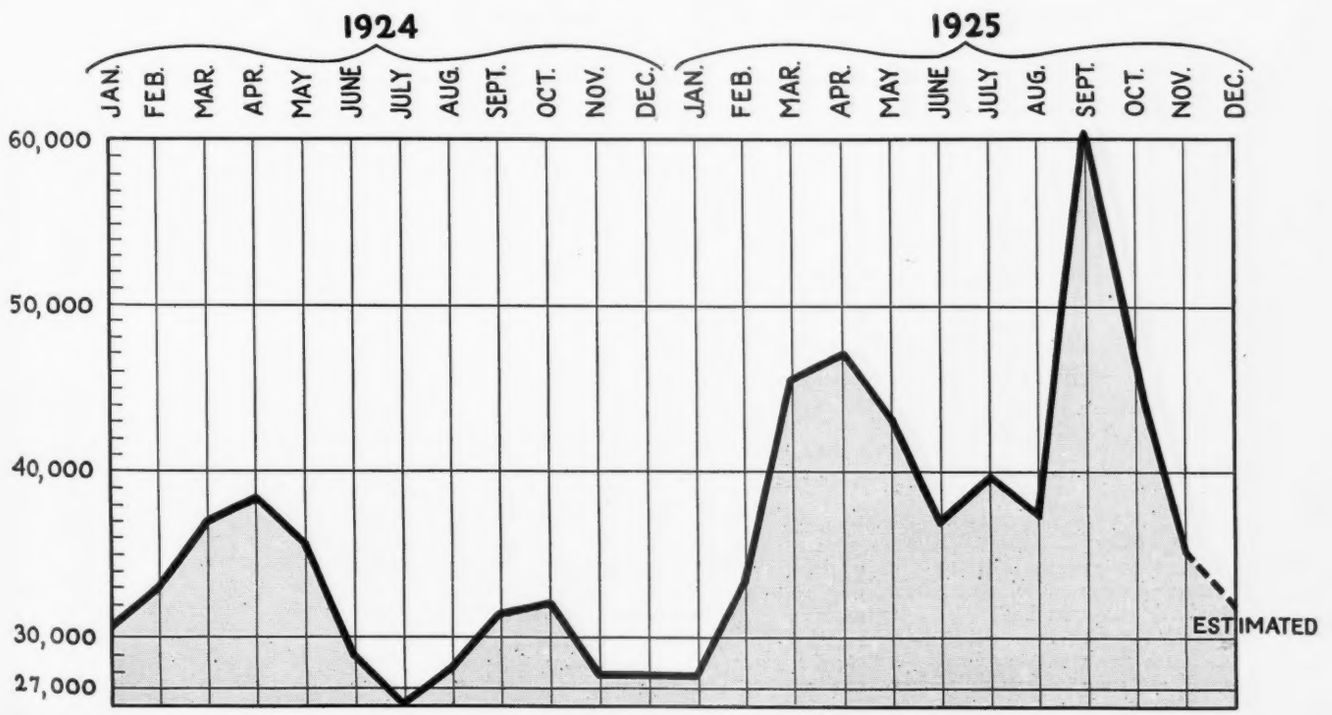
The accompanying diagram shows graphically how truck production fluctuates from month to month, and also how the truck business is gradually increasing. With the constantly increasing good roads mileage that this is accumulating and with the general business conditions prosperous and certain to continue, 1926 has all the ear marks of a very good truck year.

Production Figures U. S. Department of Commerce

January	20,569	30,741	28,099
February	23,352	32,910	34,334
March	36,737	36,444	45,012
April	39,759	37,948	47,664
May	45,829	35,314	43,223
June	42,568	29,067	37,890
July	31,830	26,391	39,211
August	32,311	28,647	37,643
September	29,721	31,960	60,368
October	31,612	32,475	45,823
November	29,255	27,905	35,000*
December	28,990	27,542	32,500*
Total	392,533	377,344	486,777

*Estimated by Commercial Car Journal.

The table above is based on figures received from 126 truck manufacturers and includes fire apparatus, street sweepers and buses.

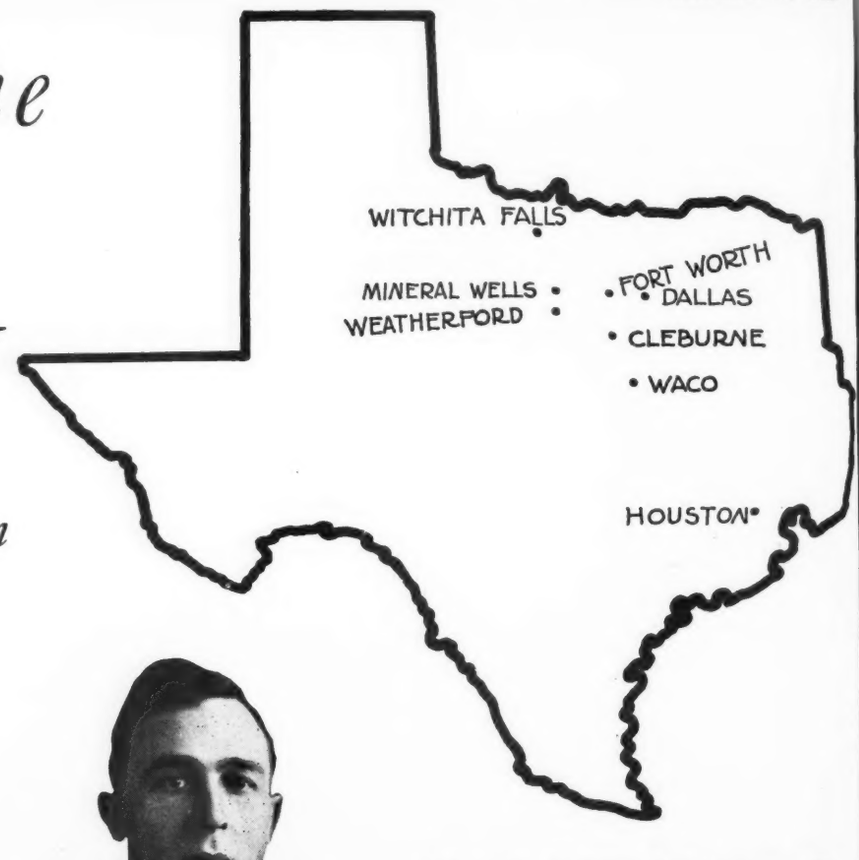


The big increase in motor truck production is very apparent from the graphical chart shown above

KEEP *the* Truck Healthy

Service Insurance Applies the Prescription Before *not* After

by J. A. Webb



The Newby Plan:

Eliminates Shop Irregularities
Costs $8 per Month per Vehicle
Insures Uninterrupted Service
Ends Mechanic's Idleness
Cuts Overhead in Half

N. J. Newby

N. J. Newby, originator of the Newby Brothers Monthly flat rate system for servicing motor vehicles, worked out his scheme in his own garage at Fort Worth some five years ago. He was imbued with the idea that the greater part of the repair bills could be prevented and wish to ascertain just what amount of work mechanics could turn out in twenty-four hours where there was no loss of time because of lack of vehicles to work on. He announced he would do maintenance and repair work on trucks for one-half the price charged in reilable garages, and guarantee his work. As a result his garage was flooded with work. He operated day and night for one year. He lost money during this year but he gained the experience he wanted and realized his monthly flat rate service idea could be made a success. He inaugurated it and it has been growing since. At first the flat monthly charge was fixed at $6. This was found to be inadequate as prices of parts and labor increases and he boosted the monthly service rate to $8.

DOWN in Texas N. J. Newby, automobile mechanic in the service of the government during the war, and for years a student of the causes which send motor vehicles to repair shops, has inaugurated something entirely new in the line of servicing motor vehicles.

He has applied the old adage "an ounce of prevention is worth a pound of cure" to the garage business and is preventing repairs, rather than making repairs after the damage is done. He is the originator of what is known in Texas as the Newby Brothers monthly flat rate plan for servicing motor vehicles, a scheme by which owners of trucks and automobiles are assured their vehicles will be kept in first class condition for a small charge of so much per vehicle per month.

Exclusively Service

The Newbys do not buy, sell or exchange motor vehicles of any kind. They are not in the accessory, parts, equipment, tire or battery business. They do not operate their garages in the ordinary manner. Their service is confined to individuals or concerns having motor vehicles enrolled with them on a flat basis of so much per month per vehicle.

The Newby system of servicing motor vehicles is something like insuring them against being out of commission because of damages or want of repairs. Owners pay a nominal sum monthly and are assured their vehicles will always be in running order. They take no risk. They simply enter into an agreement to pay the service charge monthly, plus the regular list prices for parts, oil and grease used in connection with upkeep and cease to worry about repair bills.

The small monthly service charge under the Newby system is made possible by the pooling or clubbing of a large number of motor vehicles for maintenance in one establishment. Such arrangements, the Newbys have found, eliminate all shop irregularities, puts an end to idleness on the part of mechanics and cuts the overhead expense in half.

The Newbys idea is to prevent repairs as much as possible. Actual experience taught them fully *seventy-five per cent of repair bills on motor vehicles could be traced to lack of proper adjustments and lubrication at the proper time. Experience also taught them the life of the wearing parts of a motor vehicle could be doubled by proper care.* In the hard school of experience they also learned that in the majority of repair jobs the labor necessary to remove and replace the broken or worn out parts costs more than the parts themselves.

Prevent Repairs

With these things in mind the Newbys have established a service system, designed primarily to prevent repairs, instead of making the repairs after the damage is done. They claim the essential difference between them and others is that they are preventing repairs while the others are making repairs. That is the main reason for frequent and regular inspection by an expert in this particular line of work. In these inspections defects are often discovered and corrected at a big saving to the owners and to the garage.

Here is what the Newbys agree to do

for a flat charge of $8 per month per vehicle:

Furnish skilled labor, tools, garage and pull-in service necessary for repairs and up-keep of vehicles.

Inspect and grease each vehicle thoroughly once each week for the first month after enrollment and twice per month thereafter.

Tighten and adjust all parts, replace broken and worn parts, including accidents, wrecks and burnt out bearings.

Keep their garages open and ready for service at all hours of the day and night.

Includes Tow Service

Maintain pull-in system at all hours, day or night, by which patrons' machines within city limits will be towed in for service without extra cost, and from out the city limits at a nominal charge.

Keep trouble car ready for service at all hours, day or night, for benefit of clients whose machines may go dead in action, and on which repairs must be made before trip is completed.

Furnish all parts used in replacing broken or worn parts, and all grease and oil used on clients' machines at regular manufacturers list prices.

Make no charge for labor in connection with removing or replacing parts to be welded, soldered, heated or reground and to charge not more than prices prevailing at reliable garages for welding, soldering, heating such parts, or for boring cylinders.

Tire trouble repairs, recharging batteries, work on magnetos, repairs to tops, bodies, curtains, washing, polishing and storage are not included in the flat charge of $8 per month per vehicle. The charges for this work is the same as that which prevails at reliable garages.

The Newbys will not enroll a part of the total number of motor vehicles of any individual or concern used for commercial purposes. The entire number must be enrolled before the flat monthly rate for service obtains. The Newbys will not enroll less than five motor vehicles used for commercial purpose from any individual or concern. That means individuals or concerns having less than five trucks are not entitled to participate in the flat rate service per month.

With passenger or pleasure vehicles the rule is different. The Newbys will accept one or more cars of this nature for service under the flat rate system.

Must be Acceptable

The Newbys will not accept motor vehicles for flat rate monthly service unless they are in good condition. Machines offered for the flat rate monthly service, not in good condition, will be put in acceptable condition in the Newby garages at prices prevailing at reliable garages. If the work necessary to put them in acceptable condition is done in some other garage, it must be inspected and approved by Newby mechanics before the flat rate monthly service applies.

The Newbys are now operating eight garages in as many cities in Texas. Another garage is to be opened in New Orleans soon and still others in Kansas City and Oklahoma City. At Dallas, Fort Worth, Wichita Falls and Houston the Newby garages have about 250 machines enrolled with them. The other garages located at Waco, Mineral Wells, Cleburne and Weatherford each have about 200 machines enrolled. In each case 80 per cent of the machines enrolled for service are trucks. The remainder are passenger vehicles, usually cars driven by traveling salesmen who cover a considerable territory and whose repair bills run into considerable money during a year. Traveling salesmen are entitled to free service at any Newby garage for the small sum he paid at his home town garage.

Every Newby garage is equipped with modern machinery and tools. They are arranged to facilitate work and eliminate loss motion. The cranes, pulleys, shifting machinery, etc., necessary to moving machines or handling heavy work, are placed so that vehicles being repaired or adjusted are always convenient to working tools of the mechanics. *Every precaution is taken to turn out the maximum amount of work in the minimum time. The shop equipment is unusually up to date.*

Superintends New Garages

All new garages are installed by N. J. Newby, the originator of the system. Newby stays with the new garage until it is on a paying basis. This usually means some six weeks. He superintends the installation of the machinery. Does the advertising necessary to let the truck owners know the place is opened and the service is ready. Solicits business until he places a sufficient number of machines on the list to guarantee a profit to the place. Then he transfers an expert mechanic from one of the other garages to the new place and puts him in charge of the business or employs an expert and a reliable man at the new place and puts him in charge. In either case the new manager has what is known as a working interest in the business. This means in addition to drawing his regular salary as manager or master mechanic, he receives part of the profits of that particular house. Usually a part interest in the business is sold to the man placed in charge.

Newby has found it is not hard to get the best of mechanics to take charge of a new garage when the place is already on a paying basis. He has also found the working interests plan is conductive to harder efforts, better work and larger profits. Newby says a man

Only Place Garage

DALLAS 1410 Camp Street	ORDER No.	FT. WORTH 13th at Jennings

Date in _____ License No. _____

GENERAL INSPECTION, ADJUSTMENT, REPAIR & GREASE

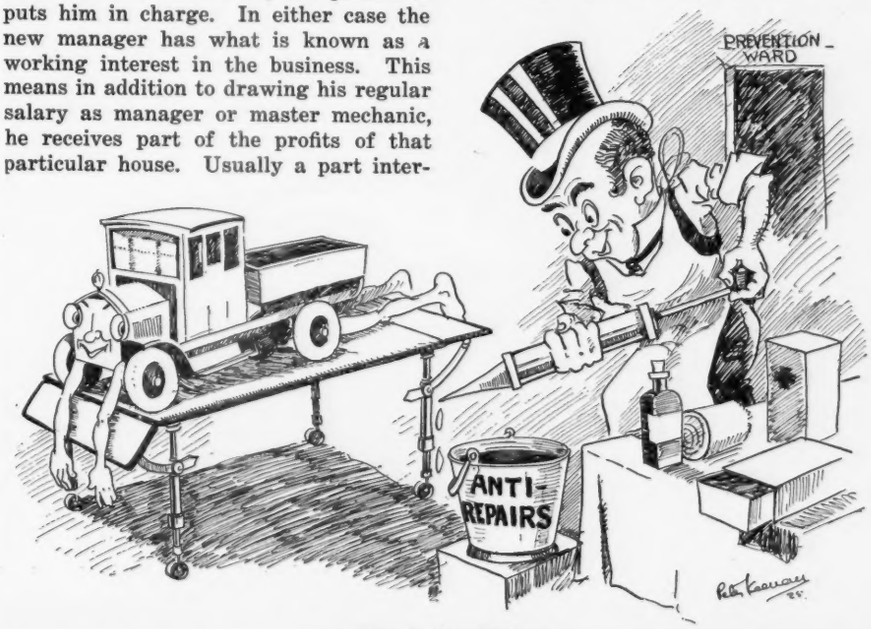
Mechanic who O. K.'s this Card without properly serving each Item will be dealt with accordingly.

	O. K.	Repaired	Not Fin.
1. Motor good comp., all cylinders?			
2. Does motor miss?			
3 Motor start easy?			
4. Any con. rod or main bearing knocks?			
5. Any gas, water or oil leaks?			
6. Gas and oil lines open?			
7. Both brakes and clutch good?			
8. Lost motion in str'g gear or too stiff?			
9. Wheel bearings O. K. and adjusted?			
10. Wheels in line?			
11. Com & Koller cleaned, oiled & O. K.?			
12. Water in battery?			
13. Generator properly charging?			
14. Spring loose, out of line or broken?			
15. Fender bolts and braces tight?			
16. Any fenders need welding?			
17. Bumper bolts and bracket tight?			
18. Body bolts tight?			
19. Body tight on frame?			
20. Motor tight in frame?			
21. Rear wheels tight on axle?			
22. All lights burning after shake down?			
23. Alemite system installed?			
24. Any missing grease cups?			
25. Grease all over, also diff. and trans?			
26. Did you give it overhill try out?			
27. Is it ready for driver?			

Signed by Mechanic _____ O. K. by _____

Items underscored indicate bad order reported.
Make remarks on opposite side of this card.

Drivers itemize repairs and fasten tag on truck



Truck Vaccination

naturally takes more interest in the business when he owns part of it. He hustles harder for new customers, works harder to please them, and turns out more work than he would if he was there alone "watching the clock and looking for Saturday night." He says these men are interested in making more money for themselves and that means more money for the system.

Specializes Repairs

In all Newby garages a considerable amount of *specializing is done to facilitate the work. A certain line of trucks is handled on one night and some other line taken care of on another.* For instance department store trucks may be serviced Monday nights, furniture store trucks on Tuesday nights and bakery trucks on Wednesday nights. Dairy trucks may be attended to on Monday and some other line on Thursdays. As nearly as is possible the same crew of mechanics work on the same line of trucks all the time. The Newbys have found a first class mechanic can service 10 to 13 trucks in one night, and especially if he has been handling these trucks all the time.

Of course the Newby garages are open day and night. But in the case of servicing trucks, especially furniture and department store machines the majority of the work is done at night. The same applies to gravel and cement trucks and several other lines. For that reason the crew of mechanics in any Newby garage is larger at night than in day time. The Newbys have trucks ready for service the morning after they are brought to the garages unless there has been a smash up, some burnt out bearings or other serious damage.

The Newby garages are closely related to each other. Each shop has a complete list of all machines enrolled at every other shop, with the secret mark on those vehicles. Any vehicle enrolled with one Newby garage is entitled to service without cost at any other Newby garage. That insures commercial trucks used for transporting freight, and cars used by traveling salesmen, to repairs should they need them while away from home for the small monthly sum the owner agreed to pay his home station. For instance if a truck enrolled with the garage at Wichita Falls happens to be in Fort Worth or Dallas, 115 or 150 miles from home and develops some trouble, that trouble would be corrected at the Newby garage without charge to the truck owner. The driver would have to produce no affidavits or do any wiring to his home garage. He would give the name of his company at Witchita Falls and the mechanic would see if that company was on the Newby list there. If it is then the mechanic would look for the secret mark of the Wichita Falls garage and if found, the work would be done and the car sent on its way without charge.

But if the job done by the Dallas shop on the Wichita Falls machine failed to stand up and that machine had to stop at the Fort Worth shop while getting back home for the same trouble treated at Dallas, the Fort Worth shop would repair the machine and charge the Dallas shop with the labor at $1 per hour. It would not charge the truck owner for the service. By that system the Newbys make every job turned out of their shops stand up. It eliminates all shoddy work.

Full Line of Parts

The Newby garages carry a complete line of parts, especially for Ford and Dodge trucks. They have arrangements in various places where they operate with dealers whereby parts for any other trucks can be obtained day or night, in case the garages do not have them in in stock. All parts are handled through the headquarters garage at Dallas, of which N. J. Newby is proprietor. They are delivered to other garages on requisitions at wholesale prices.

At each garage the parts are housed in special cases or containers. They are arranged systematically and are easy to get at. When a mechanic needs parts for any job he makes out a requisition for them. These parts are delivered to the mechanic and a receipt taken. The requisitions and receipts are passed to the bookkeepers and, the parts charged to owners of vehicles on whose machines they were used. The itemized bill for parts used is shown on the bill for flat rate service at the end of each month.

Each Newby garage makes a complete monthly report of all cars serviced, parts used, moneys received and paid out to the headquarters garage.

Primarily the Newbys sell service at so much per car per month. They have worked the system down to where the shops pay an actual profit on service alone. Each garage employs from five to seven persons. From three to five of these work at nights. Their salaries range from $18 to $60 per week. In addition to the profit made from the flat rate monthly service the Newbys make a profit on oil, grease, parts, work done on batteries, tires, tops, bodies, curtains, magnetos, washing, polishing, storage, welding, soldering, painting and cylinder jobs.

Based on Good Condition

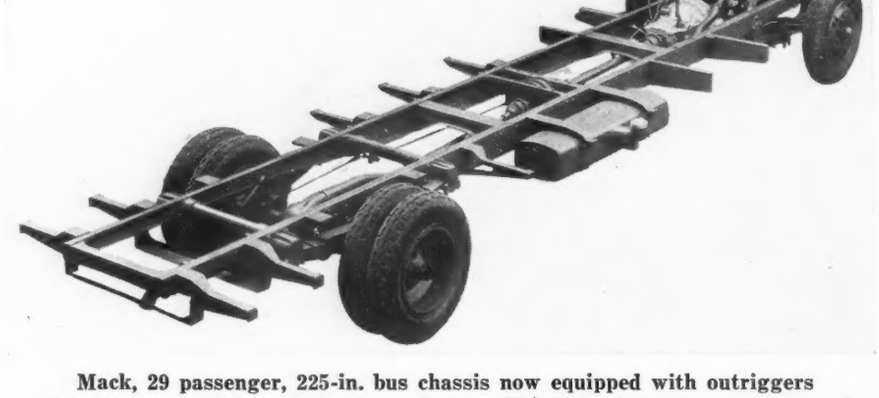
Citing some examples of why they must keep machines in the best of conditions and prevent repairs rather than make them, N. J. Newby said nearly every Ford axle ever broken broke at one place, near the hub, and the break was caused from lack of proper lubrication. He said any Ford service shop would charge $2 for towing in a car with a broken axle, charge $6 for the labor connected with replacing the axle and then charge the regular list price for the axle. The Newbys, he said, towed in the car and replaced the axle under the regular monthly service charge of $8 and made a profit of 34 cents on the axle. He said he can not afford to do an $8 labor job for 34 cents, hence he keeps Ford axles from breaking by proper adjustments and lubrication and makes a profit on the lubricants.

He pointed out for overhauling the rear end of a Ford the regular labor charge in any Ford service station is $7, and said some times the parts used in connection with such job is $18. The Newbys would make a profit of $4.50 on the parts and they could not afford to do a $7 labor job for $4.50, hence they can not allow rear ends of trucks to burn up. He keeps them oiled, greased and adjusted and makes a profit on the oil and grease. He puts in a part here and there as needed and takes his profit on them.

It is so on down the list under the Newby system. They are making money preventing repair bills and taking profits on parts, etc. used in the prevention system.

The Newbys use a simple card as a keystone for inspection work in their garages. That card lists 27 items which must be looked after by inspectors and worked by mechanics. In the case of work to be done in the garage the items are underscored and given attention by the mechanics. If

(Continued on page 64)



Mack, 29 passenger, 225-in. bus chassis now equipped with outriggers

Also note changes in gasoline tank feed peep. The old style intake turned upward at a broad angle and the gage was hard to read unless one stooped very low. The present style intake turns upward at right angles and the gage has been extended a few inches

Making the Service Department *Self-Supporting*

By Lionel Williams

TIMES are changing. No longer do the sales managers of the more enlightened truck dealing establishments regard the service department as nothing more than a necessary evil. Its value in the merchandising field is slowly but surely coming to be recognized and acknowledged. It is still a necessity, but it is a productive one whose influence on sales cannot readily be gaged in dollars and cents. That is why it is so often looked upon as a liability.

As far as actual cash return is concerned, very few service departments are self-supporting. That is to say, the profits accruing from the work done do not often cover the overheads. Service managers, however, who have much experience behind them, are learning that it is not an impossibility for the service department to carry itself financially.

Determine Average Earnings

According to George E. Macauley, service manager of the Chicago Reo branch, the placing of the service department on a paying basis is a matter of attention to details. As he says, *the first step is to ascertain the minimum average earnings necessary to cover the cost of operation.* Next, the department must be placed on the most efficient basis in every respect. As the first duty of the service department is to give as near 100 per cent service to the customers, and as the demands upon the department fluctuate within such wide limits from day to day, it is impossible to cut down the personnel to an average. A sufficient force of mechanics and floor men must be maintained to meet the heaviest demand, and it is in the handling of this problem that failure or success of the department is tied up. This is how Macauley deals with it. All junked vehicles of Reo make that are taken in trade by the sales department are handed over to him. When work is slack, some or all of his staff of 37 mechanics are put on to the stripping of these vehicles. All the parts are sorted and those usable are put into stock and the remainder scrapped. From the usable parts complete trucks are built, which sell for about half the list price of the new vehicles.

Actually the price for which these rebuilt trucks sell shows very little profit if the time taken in the work is included, but then that time has to be paid for anyway so that in reality the vehicles cost nothing for labor. Only one drawback to this scheme has been found, and that is the amount of space taken up in the disassembling and assembling of the trucks. If there is no scarcity of floor space this objection vanishes. In addition this arrangement does much to minimize the used truck resale problem.

In the realm of small economies to be practiced come such things as preventing waste of time in the shops and carefully controlling the waste of light, heat and power. Under the item of time waste prevention comes the adoption of flat-rate systems of paying the mechanics. A properly organized flat-rate system speeds up the work while increasing the earning power of the mechanic. Proper and sufficient mechanical equipment is an essential part of this system.

Proper organization and laying out of work is necessary to prevent time wastage. With a staff of 37 mechanics, such as Macauley has, it is imperative that they should be able to commence work as soon as they arrive in the mornings. Changing clothes, gossiping, and waiting for job cards, very often make the first morning hour absolutely non-productive. There are over 37 hours' labor added to the debit side of the account.

Small Economics Count

Small economies such as switching off unused lights, conserving water, stopping machinery not in use, may seem absurd, but they do involve appreciable sums in the long run and more than repay close attention on the part of the management.

It is along these lines that Macauley has reduced a steady loss to practically an even break average. Even now some months show a deficit but the current

(Continued on page 64)

To be Self-Supporting:

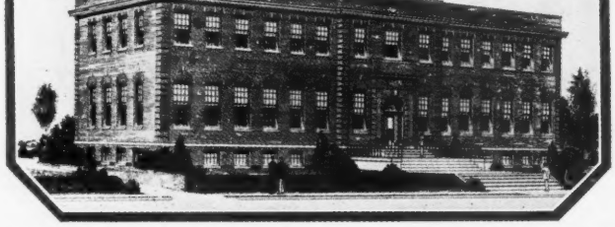
1. **Ascertain minimum average earnings necessary to cover cost of operation.**
2. **Don't cut personnel to an average.**
3. **Meet slack periods with "stripping" work.**
4. **Practice small economies.**
5. **Conserve heat, light and power.**
6. **Adopt flat rate system.**
7. **Have complete mechanical equipment.**
8. **Establish discipline and order.**
9. **Create harmonious client relationship.**
10. **Sell the service department to the user.**

Commercial Car Journal's

Interesting Items Caught by the Ever-Present Camera

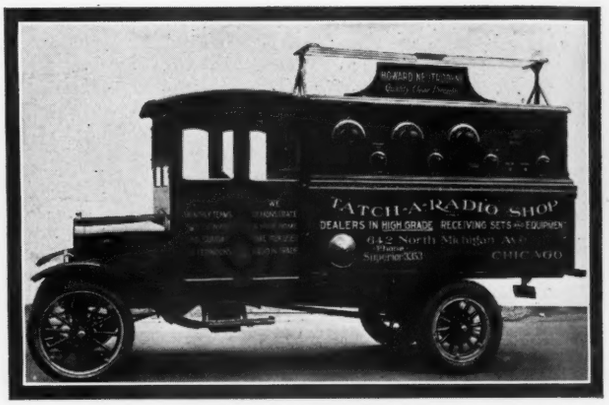
Even the poor have access to library books today

Youngsters have learned to look forward to Philadelphia's new free library mounted on an Autocar, which makes weekly visits throughout the city.



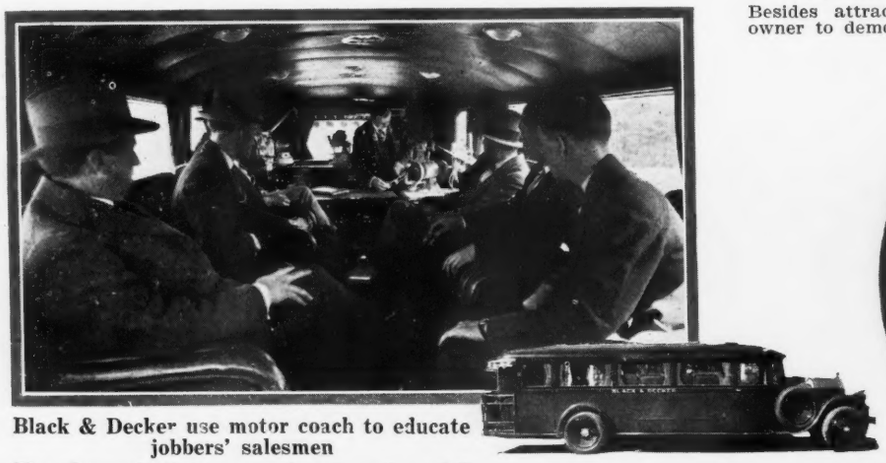
The new Heil administration building is early colonial in design

It will be occupied by the executive, sales, advertising, accounting, purchasing and engineering departments



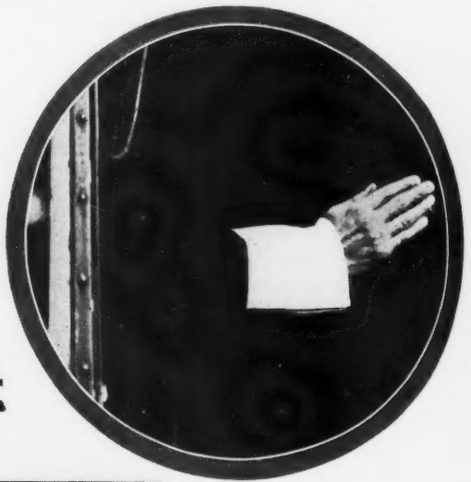
He sells radios by bringing them to the home

Besides attracting attention this equipment enables the owner to demonstrate direct the radio that he is handling.



Black & Decker use motor coach to educate jobbers' salesmen

The demonstrating compartment and a full length view of the bus are shown.



Ghastly but real

Its only a bus driver's arm made conspicuous by a white armlet. The Tilling Omnibus Line, London, England believes in keeping traffic posted as to its driver's intentions.

Another example of truck economy

This Highland cab equipped truck is used by the American Maize Products Co. to increase production and cut costs. The trucks, which are uniform in appearance are equipped with thermos tanks for transporting corn sugar at high temperature direct from the refineries to the candy manufacturers.

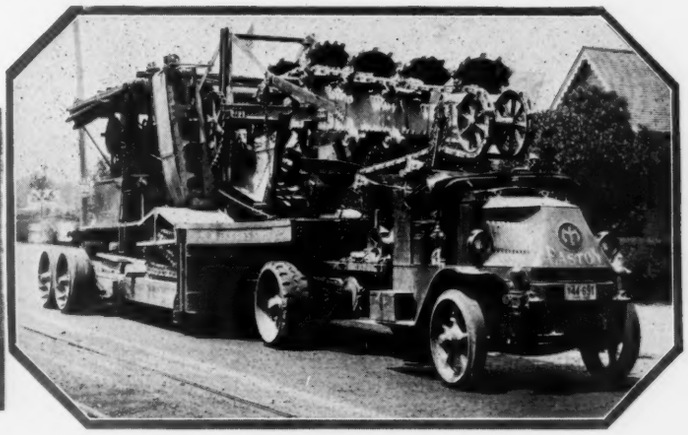
Pictorial News Review

Showing Automotive Progress, Achievement and Tendency

Think of it! Sixteen oxen to haul three small logs

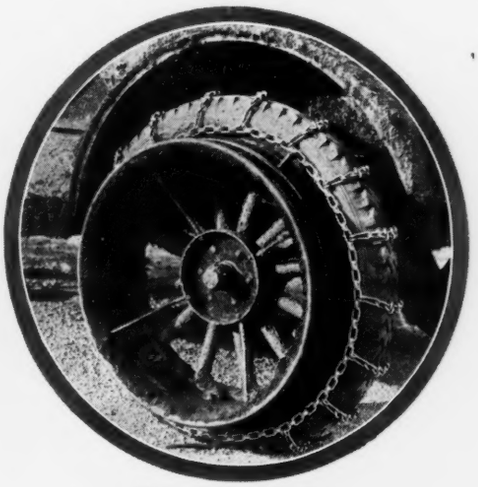
Like the young Miss across the way it's dressed to attract

This body, built by the Hoover Body Co., York, Pa., to display the product of a nationally known manufacturer, the American Radiator Co., has as its cardinal feature, unusual advertising value.



$25 an hour hires this combination

At this rate this combination earned its original cost in the first year. The load shown weighs 35 tons.

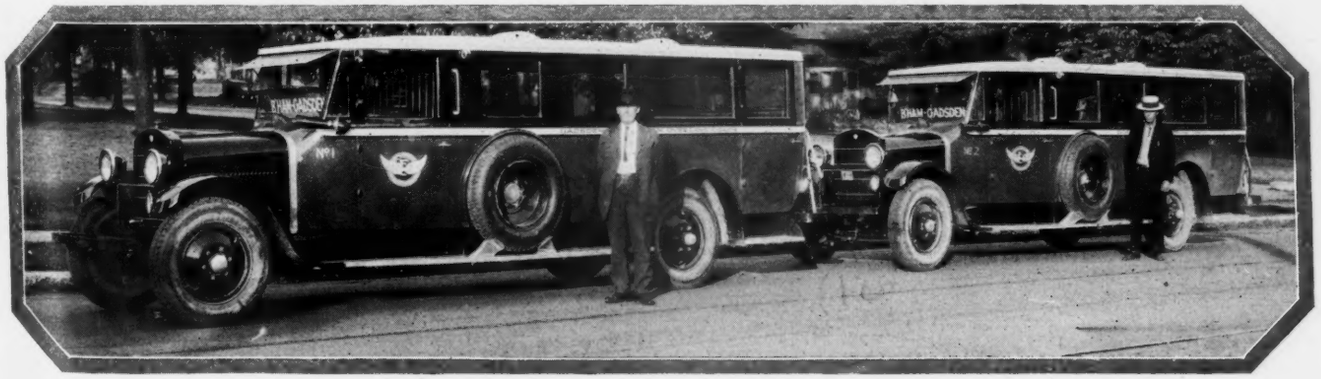


For mud and clay

This device for attachment to truck wheels was invented by Wm. H. Richards, Springfield, Ill. The wheel is capable of standing all jolts.

Logging by motor truck on a large scale

Equipment includes five 5 ton White trucks, one White power winch, a special loading cradle and two-wheel pole carrier. Loads range as high as 6,250 ft.



The motor bus is coming into its own in Birmingham

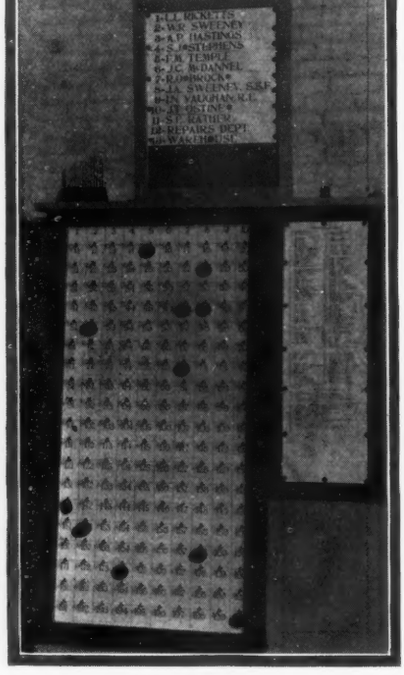
Organizing *for* Service

Service a Dominant Factor in International Southern Branch

Each mechanic is provided with a wheeled bench containing specified tool equipment. It is complete in every detail

IN order to handle efficiently the vehicles of 600 International owners in 44 counties in Tennessee and 4 in Alabama, the International Harvester branch in Nashville has entirely reorganized its service station. This reorganization involves no extension but rather a rearrangement to secure greater efficiency in both labor and equipment.

This reorganization is the outcome of the International practice of having a traveling efficiency man who makes a periodical tour of all the branches in his division. The Nashville branch comes under the Southern division where there are 15 branches, some of which may have two or more service stations.



Track of tools is kept by a board and check system

A large proportion of the business handled by the Nashville branch is among long-distance haulers, produce, lumber and stock merchants, every one of whose vehicles are inspected, free of charge, once each ninety days. This after-sales service is carried out by traveling inspectors who complete very full reports in triplicate (Fig. 1), leaving one report with the owner and sending the other to the branch and one to the factory.

Details of each vehicle sold are kept in a card-index file (Fig. 2) and the subsequent inspections noted upon the card. A personal call by the inspectors is beneficial to the dealer in three ways, (a) he discovers whether the buyer is satisfied or not and helps clear up any misunderstandings, (b) he induces the buyer to come to the station for service and not go elsewhere, (c) by helping the user to get the best results from his purchase he creates goodwill.

Ensure Continuity

Business thus secured, a maximum of service must be given to ensure its continuity. Repair work must be carried out with expedition so as to keep the vehicles off the road for the shortest length of time, and emergency breakdowns must be catered to. Among other things this involves the maintenance of a comprehensive stock of spares and materials, and the availability of a competent repairman at any hour of the day or night.

For the service, sales and repairs departments there is a stock of parts valued at $175,000 which is constantly replenished. Service engines and other units are kept in reserve so that vehicles can be kept on the road while their worn or damaged units are being repaired. In addition to this other vehicles are available for loan to the owners of vehicles under repair. No night staff is maintained at the service station but the service manager is available at any hour on receipt of a telephone call.

Any manufacturer's service station to be made a paying proposition—or at least to make an even break—must practice the strictest economy, not only of labor and material but of other items constituting overhead. For one thing, as in this case, floor space must be economized. Waste space adds to the overheads, and so in the International service shop the first principle is "a place for everything and everything in its place." Accordingly the floor is marked out in white lines to locate the position of vehicles, waste bins, and incidental tackle such as wheel jacks.

No fixed benches are employed, but each mechanic has a wheel bench, as shown in the photograph. Each bench carries a specified equipment and the mechanic's toolkit.

The standard bench equipment, provided by the company, comprises the following:

1 Broom	1 Light Hanger
5 Wrenches	1 Vise
1 Coldchisel	1 Waste Can
1 6-ton Jack	1 Oil Can
1 20-ft. Extension Cord	5 Drills
	1 Metal Creeper
1 26 x 40 in. Wash Pan	

In addition, the mechanic has a metal Mechanikit tool chest which the com-

pany sells to him at about half the market price. This contains every tool and measuring device he is likely to require, as the following list indicates:

Mechanical Tool Equipment

Metal tool box
D-Set of Bethlehem socket wrenches
No. 1 14" Speed handle
No. 2 14" T handle
Knuckle valve grinder
Valve grinding spring
Perfect pocket oiler
Set of 16 magneto wrenches
Set of 6 double end Bonney wrenches
Set of 8 Bonney valve tappet wrenches
No. 2879-A Corbin padlock with two keys
No. 97½ Drill tap gauge
No. 613 Rubber handled screw driver
10 Colton file brush
No. 112 Carborundum stone
Set of three No. 123 Bearing scrapers, Simpson Peck.
Pair No. 12 tin shears
3" Perfect handle screwdriver
6" Perfect handle screwdriver
No. 79 5" Outside calipers, Staretts
No. 73 5" Inside calipers, Staretts
No. 83 5" Dividers, Staretts
Set of 3 Ezy out No. 4-5-6
Set of 5 Greenfield solid hex dies ¼ to ½" S. A. E.
Set of 5 Greenfield solid hex dies ¼ to ½" U. S. S.
No. 480 Thickness gauge, 24 leaves
3 No. 12-B File handles, 4½" long
8" Trimo pipe wrench, iron handle
2" Putty knift
No. 1027 Hacksaw frame
No. 565 Set of 8" Starretts pin punches
1¼ lb. Machinist hammer
8 to 10" double end Crescent wrench
4 to 6" double end Crescent wrench
No. 102 6½" Bernard pliers
No. 315 9" Steel scale, 4 Grd. B. & S.
No. 10 T handle top wrench, ¼" capacity
No. 296 Starretts steel slide rule
No. 143 Miller Falls ⅜" center punch
No. 140 Miller Fall ⅝" center punch
No. 21 Veeder speed indicator
⅞" x 12" Octagon cold chisel
½" x 12" Octagon punch chisel
¾" x 12" Octagon punch
Box for shipment of tools

After each job the wash trays are cleaned and put in a special rack shown, for convenience in photographing, alongside the bench.

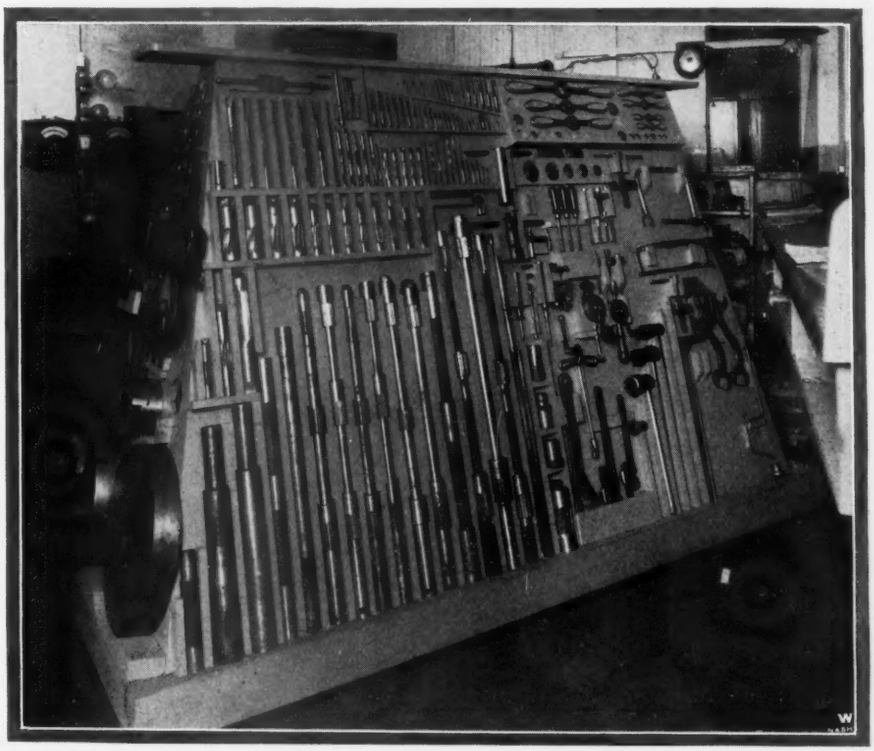
Each bench top is protected by a sheet of shellacked beaver-board, which is easily renewable, and the strictest cleanliness is insisted upon. The use of these benches has proved an economy because there is no need to keep moving the vehicles about the floor as they come up for attention, and space is saved as compared with the necessarily long fixed bench.

Careful arrangement has also made possible the cutting down of the space required for the toolroom. Along the walls are bins for small pieces such as nuts, and washers. A lathe occupies the center of the floor at one end and in line with it is an exceptionally well laid out tool board. This tool board is in the shape of a pyramid and carries, each in a separate slot, line reamers, arbors, diestocks, chucks, taps, hand-drills, rose-cutters, milling cutters, wrenches, hacksaws, etc.

At this end of the tool room is the electrical test bench, with devices for testing spark plug spark intensities, output of generators, etc., and for remagnetizing generator and magneto poles. Outside the tool room, attached to the wall, is a small spark-testing device for the use of the mechanics.

Tool Control

Control of the tool issue and prevention of losses in this department is an important item as every service manager knows. The International service manager keeps track of the small equipment by having every one of the 200 or so small tools numbered, and listed on a board. This list is fastened to a check board, so that the mechanic's check can



Above: This pyramid tool-board, designed for space economy also facilitates repair operations

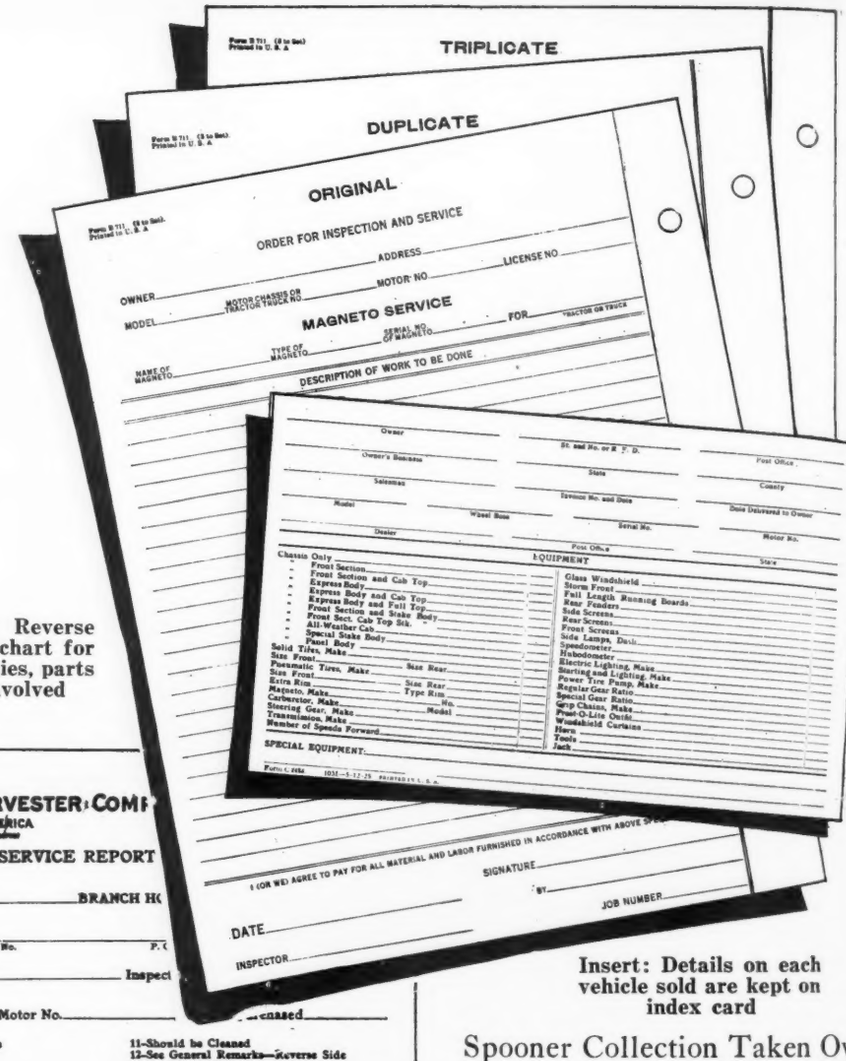
Right: International Harvester's Headquarters, Nashville, Tenn. A parts stock value of over $175,000 is constantly being replenished

be hung on the proper number without taxing the memory of the stock-keeper. Over these boards is a list of the mechanics' names and their check numbers, as the photograph shows.

Celluloid Holders for Orders

For the actual work done on vehicles, a triplicate order form is used, the third sheet being of stout card and placed in a celluloid holder attached to the machine. All orders are made out by the foreman on instructions from the owner or representative who signs the order. One copy of this goes to the office, one is retained by the shop foreman and the third is affixed to the truck as stated.

On the reverse side of the order sheets, details of supplies, labor, parts and attachments purchased are entered, and the job is released on approval by the cashier.



Below: Fig 1a Traveling inspectors record in triplicate all work to be done on this form

Right: Fig. 1 Reverse side of order chart for detailing supplies, parts and labor involved

100M—11-19-24
Form C 9481 A. Printed in U. S. A.

INTERNATIONAL HARVESTER COMPANY OF AMERICA

INSPECTION AND SERVICE REPORT

MOTOR TRUCK SALES DEPT. _____ BRANCH H(

Owner _____ R. F. D. or St. and No. _____ P. (

Business _____ Dealer _____ Inspect

Model _____ Wheel Base _____ Serial No. _____ Motor No. _____ ...ensed _____

1-O. K.
2-Should be Adjusted
3-Should be Tightened
4-Should be Rebushed
5-Needs Slight Repairs
6-Needs Extensive Repairs
7-Should be Overhauled
8-Should be Renewed
9-Lubricate More Often
10-Must Dismantle to Make Report
11-Should be Cleaned
12-See General Remarks—Reverse Side
13-Out of Alignment
14-Worn but will render some service
0-Indicates Item does not appear on this Model

Place "X" after specific item referred to. Place dash "—" after Key Number when previous recommendations were not followed.

		Requires Attention	Attention Given
1.	Cab, open, closed		
2.	Windshield		
3.	Paint, Body, Chassis		
4.	Hood, Hinge, Latches		
5.	Starting Crank, Ratchet		
6.	Comp. 1, 2, 3, 4		
7.	Magneto Couplings		
8.	Pump Couplings		
9.	Water Pump Packing		
10.	Magneto		
11.	Distributor		
12.	Breaker Points		
13.	Ignition Timing		
14.	Spark Control		
15.	Rocker Arm Bshgs.		
16.	Push Rods or Tap, 1, 2, 3, 4		
17.	Valves, Intake, 1, 2, 3, 4		
18.	Valves, Exhaust, 1, 2, 3, 4		
19.	Wiring		
20.	Hose Conn. Upper, Lower		
21.	Radiator		
22.	Radiator Support		
23.	Fan, Gears, Bushings, Belt		
24.	Cylinder Head, Studs, Gasket		
25.	Manifold Gask. Intake, Exhaust, Water		
26.	Oil Level Gauge		
27.	Frt. Fenders, Rt., Left		
28.	Head Lights, Rt., Left		
29.	Ft. Whl. Brgs., Right, Left, Alignment		
30.	Frt. Axle, Bshgs., Pins		
31.	Tie Rods, Conn.		
32.	Sprgs. Ft. Right, Left		
33.	Shackle & Sprg. Bshgs. Rt. Frt.—Left Frt.		
34.	"U" Bolts, Frt. Axle, Right, Left		
35.	Sprg. Center Bolts, Rt Frt., Left Frt.		
36.	Bonnet, Floor, Running		
37.	Seat Cushion		
38.	Ignition Switch		
39.	Impulse Starter		
40.	Coil		
41.	Choker Assembly		
42.	Starting Motor Switch		
43.	Lighting Switch		
44.	Lighting Circuit		
45.	Ammeter		
46.	Generator		
47.	Circuit Breaker		
48.	Pressure Gauge		
49.	Horn, Wire, Button		
50.	Throttle Control		
51.	Governor Seal		
52.	Crank Shaft		
53.	Timing Gears		
54.	Main Brg. F, C, R		
55.	Conn. Rod. Brg., 1, 2, 3, 4		
56.	Wrist Pins, 1, 2, 3, 4		
57.	Wrist Pin Bshg., 1, 2, 3, 4		
58.	Pistons, 1, 2, 3, 4		
59.	Piston Rings		
60.	Spark Plugs, 1, 2, 3, 4		
61.	Cyl. Blk. Stvs., 1, 2, 3, 4		
62.	Camshaft		
63.	Camshaft Brg. F, C, R		
64.	Motor Bolts F, R		
65.	Crank Case Bolts, Gasket		
66.	Oil Pump		
67.	Motor Oil		
68.	Carburetor		
69.	Clutch, Brg., Brake		
70.	Brakes, Foot, Hand		
71.	Trans. Gear Shift		
72.	Strg. Gear Bshgs. Arm		
73.	Fuel Tank, Line		
74.	Battery Terminals, Water Level		
75.	Transmissions, Bolts		
76.	Transmissions, Brgs., Gears, Yokes, F, R		
77.	Frame, Main, Sub		
78.	Muffler		
79.	Prop. Shaft, Spline		
80.	Universal Joints, Front, Rear		
81.	Differential Pin Bearings, Yoke		
82.	Differential Gears, Bearings		
83.	Body Mounting, "U" Bolts, Clamps		
84.	Brake Equalizers		
85.	Rear Axle		
86.	"U" Bolts Rear Axle, Right, Left		
87.	Sprgs., Rear, Rt., Left		
88.	Auxiliary Springs, Right, Left		
89.	Shackle Sprg. Bshg., Rt. Rear, Left Rear		
90.	Spring Center Bolts, Rt. Rear, Left Rear		
91.	Rear Wheel Bearings, Right, Left		
92.	Internal Gears, Right, Left		
93.	Jackshaft Pinions, Right, Left		
94.	Jackshaft Bearings, Right, Left		
95.	Rear Fenders, Right, Left		
96.	Grease Cups or Fittings		
97.	Tail Light		
98.	Condition Rims		
99.	Condition Tires		
100.	Mileage Recorder		
101.	Miles Traveled		

INSTRUCTIONS—MAKE THIS REPORT IN DUPLICATE. MAIL ONE COPY TO THE OWNER AND THE OTHER COPY TO THE DEALER

AFTER-SALES-SERVICE

Insert: Details on each vehicle sold are kept on index card

Spooner Collection Taken Over by Lazarnick

Two leaders in the commercial photographic field, both known the world over in the automotive field in which they have been active since the start of motoring, have been brought together through the fatal accident of Mr. Chas. S. Wells, of Spooner & Wells, Inc., New York City.

Nathan Lazarnick and F. Ed. Spooner, known all over America and to thousands of motorists of foreign countries as the "Flash-in-the-Pan-Twins," reached an agreement recently, and the business of Spooner & Wells, Inc., became a part of Nathan Lazarnick's business and will be carried on by Mr. Lazarnick's organization.

The collection of a half million of photographs of Spooner & Wells becomes the property of Mr. Lazarnick. As a photographic history of the motor industry, it is very complete and becoming more and more valuable.

The address of the succeeding firm is N. Lazarnick, 1440 Broadway at 40th St., New York City.

Atterbury export sales are to be handled through Maas & Sonneborn, Inc., 611 Fisk Bldg., Broadway at 57th St., New York City, as the result of negotiations recently completed. This company will also handle all export advertising in matters pertaining to Atterbury trucks.

Gramm & Kincaid Models 60 and 80

THE same standardization and interchangeable features, which have characterized the success of the lighter Gramm-Kincaid models are also incorporated in the heavier jobs just announced by Gramm & Kincaid Motors, Inc., Lima, Ohio.

The model 60 is rated at 6,000 to 7,000 lb. capacity and the model 80, 8,000 to 10,000 lb. Both are equipped with four-cylinder engines. The engine in the former has a bore of 4½ in. by 5¾ in. stroke, whereas the model 80 has a 4¾ in. bore and 5¾ in. stroke. Both engines are of the Liberty truck type.

Both of these models are also designed to be equipped with six-cylinder engines, if so desired. Both models are equipped with the reduction clutch. The reduction ratios have been worked out to give eight graduated speeds forward and two reverse.

Compound compensating springs both front and rear provide exceptional riding qualities, which is one of the features that has been given more than usual attention in designing these vehicles. In the model 60 the transmission gear range from 103 to 1 in low to 5.65 to 1 in high, with a speed range from ½ mile per hour to 29½ miles per hour. The gear range in the 80 model is 118.75 to 1 in low to 6.5 to 1 in high with a speed range from ½ mile per hour to 25½ miles per hour.

The springs in each model are semi-elliptic type with cup centers. The two top leaves of each are wrapped around the driving eye spring pin. This feature is carried out on both front and rear springs. All eyes are bronze bushed operating on heat treated spring pins, pressure lubrication. All leaves are of chrome vanadium steel. The front springs measure 46 x 3 in. and the rear 58 x 3½ in. on each model.

Front axle is forged I-beam, low load center. Spindles are mounted on ball bearings while the wheels are mounted on adjusted taper rollers. The rear axle is double reduction full floating. The service brake is a foot pedal control, shoe type contracting, operating on balanced drum 11½ in. dia., 6 in. face mounted on driving shaft behind transmission. The emergency brake is hand lever control operated on rear wheel drums.

Other specifications follow:

Standard tires and wheels include: cast metal hollow spoke wheels carrying solid tires. Fronts 36 x 5 in. on both models. Model 60, rear 36 x 10 and model 80, 36 x 12. Optional equipment extra.

Electrical system includes six-volt battery with controlled generator. Ross 20 in. cam and lever type steering gear.

Frame pressed steel, channel section 7½ in. x 3 x ¼—36 in. wide. Semi-flexible bridge type construction.

The regular equipment includes: fully enclosed cab having drop sash windows in doors, side windows and rear window, full width adjustable ventilating windshield, extra high-grade cushions and back, electric generator, storage battery, motor drive horn, head lamps with dimmer control, dash light and combination tail and stop light. Front fenders and steps. License plate holders. Speedometer is regular equipment.

These models are each made in two wheelbases, 152 in. and 176 in. giving a turning radius of 32 and 35 ft., respectively. The loading space for the 152 in. is 11½ ft. and with the longer wheelbase 15 ft.

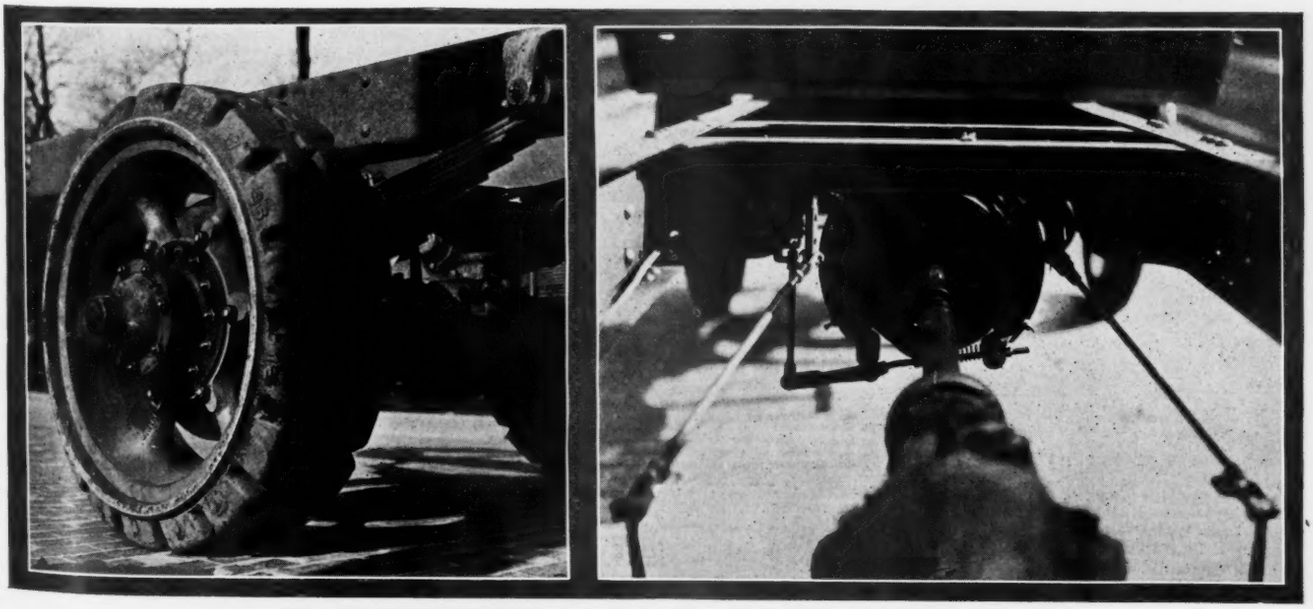
The capacity of the smaller model provides a body allowance of 1,500 lb., the chassis weight of 6.560 lb. The model 80 capacity is 8,000 to 10,000 with a body allowance 2,000 lbs. and the chassis weight of 7,960 lbs.

Both models can be furnished with optional equipment such as radiator guards, towing hooks, spring cushioned trailer drawbar, motometer, etc., while a wide range of standard body types of Gramm-Kincaid design and manufacture can be furnished.

CORRECTION

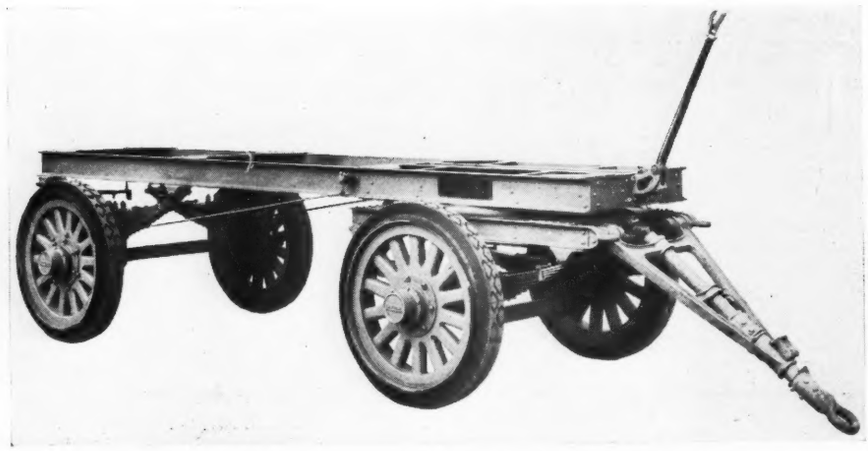
On page 62 of the November 15 issue appeared a description of a fully equipped service car, equipment of which was furnished by the Weaver Mfg. Co. The text explained that the chassis was a Ford 1-ton. As a matter of fact the illustration was that of a Graham Bros. chassis and not a Ford.

Front view of Models 60 and 80



Left: Compound compensating springs. Right: Straight line braking pull and drive

Lapeer Features Fifth Wheel and Automatic Brakes



View of the New Lapeer. Note the push-rod construction

FIFTH wheel construction at the front axle and automatic brake operation are the outstanding features of the new Lapeer trailer which has been added to the well known line of semi-trailers made by the Lapeer Trailer Corporation of Lapeer, Mich.

Four sizes of the new trailer are standard and their rated load capacities are two, four, six and ten tons, respectively. The length overall of the frame is 12 ft. for the smallest size, 16 ft. for the ten ton size and 14 ft. for the intermediate sizes. When desired additional lengths can be built to special order at a slight additional cost. As the springs on all sizes are 50 in. long the wheelbase in every case is about 4½ ft. less than the overall length. The spring depth ranges from 3 in. for the two ton trailer to 5 in. on the 10 ton unit, the number of leaves being 11 and 21, respectively. Rolled steel channel frame members are 6 in. deep on the two smaller trailers and 7 in. deep on the two larger sizes.

All wheels are mounted on Timken taper roller bearings. Due to the truck construction involved in the fifth wheel arrangement at the front end, the front axle has a dropped center section while the rear axle is straight. Both axles are rectangular section forgings. Wheel diameter in all cases is 36 in. and the tire width increases with the capacity, being 4 in. for the two ton trailer, 5 in. for the 4 ton, 7 in. on the six ton job and 10 in. on the largest size. Solid tires and artillery wheels are standard construction.

Internal expanding brakes are fitted to all rear wheels and here again the size varies with the capacity of the trailer. The dimensions of the brakes are listed as follows:

Capacity	Brake Dia.	Brake Band Width
Two ton	12 in.	2½ in.
Four ton	14	3
Six ton	16	3½
Ten ton	20	4

As in the semi-trailer line, brakes are operated automatically by the tendency of the trailer to overrun the prime mover when stopping or descending a grade. This action is secured by a push rod which engages with the rear end of the tubular center portion of the tongue. The trailer is attached to the unit ahead by a forged eye at the front end of the tubular section which is held taut in the forward position by a concealed spring. When the trailer tends to over run, the spring is overcome forcing the tubular tongue back against the front end of the push-rod. The rear end of the push-rod pushes against the lower end of a lever which is located at the center of the fifth wheel thus allowing braking action when the front wheels are at an angle with the body of the trailer. From the upper end of this lever a short rod connects with another lever on the cross shaft from the outer ends of which conventional levers and brake rods connect with the brakes.

As shown, the trailer is equipped with an auxiliary hand lever for manual operation of the brakes. The link from the lower end of this hand lever carries a collar which engages with the rear face of the upper end of the center point lever. With this arrangement the automatic feature is effective at all times and hand braking is available for locking the trailer when separate from the hauling unit. Ordinarily a pintle hitch is used in conjunction with the eye at the end of the tongue and where it is desired to haul a train of trailers, hitches are riveted to the rear cross members of the trailers. Auxiliary chain eyes form part of the corner brackets of the front truck.

Fifth wheel steering is used in order to eliminate the swerving which is sometimes witnessed when one or more trailers are hauled. The fifth wheel in these trailers is of standard make and is equipped with roller bearings, the rollers being mounted in a cage arrangement which resembles that of the smaller bearings common to automotive practice.

Treads of the various sizes vary to conform with the average treads of the units behind which they are to be pulled. In the two ton size, the tread is 56 in., for the four ton size the figure is 60 in. and for the six ton, 62 in. and the ten ton trailer has a tread of 68 in. When desired, these trailers can be purchased without the special hitch and braking attachment.

Mica Undercutter and Armature Stand

A mica undercutter and armature stand that is claimed to give free spindle motion and keep the cutter traveling parallel with armature held between centers by reason of its rigid construction and accurate machine work is being offered by the Weidenhoff Products Company, Chicago, Ill. It is designated as model No. 963.

Extreme distance between centers is 18 in. Centers will swing armature 9 in. in diameter. Chuck on spindle will take any standard one-piece cutter. An extra spindle is furnished to take cutters.

The threaded sleeve on the end of the spindle support rod gives micrometer adjustment for depth of cutter in slot. An adjustable stop prevents the cutter from striking the armature winding on the back stroke. The centers are keyed on the slide-rule rod to hold the armature parallel with travel of cutter. Maximum stroke of cutter is 4½ in. Price is $5.

Heavy or light duty trucks?

This was the question that faced Oscar Anderson of the Anderson Carting Company, Buffalo, New York, when he was awarded a contract to haul gravel, sand and cement for building the Sheridan Drive in New York state. In view of a large number of men employed, it was necessary to bring the material to the scene of the operations fast enough to keep the men busy at all times. It was finally decided to use a truck to carry medium loads at high rates of speed. This decision resulted in the contract being completed two months before it was due. Fourteen Fisher Fast Freight trucks were used on this contract.

THE
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Commercial Car Specifications—Corrected Monthly

Commercial Car Specifications—Corrected Monthly

The Specifications, Chassis Prices, Etc., Are Corrected Each Month From Data Supplied Direct by the Makers. Gasoline Tractor-Trucks Will be Found at the End of Gasoline Commercial Cars

Those Chassis Which Are Sold and Recommended for Passenger Transportation Are Designated in the Following Table by Reference Sign (§) in Front of the Name

For Specially Designed Motor Bus Chassis See Pages 44 and 45

(Where prices are not given it is because we have been unable to get them from authoritative sources)

For full name and address of manufacturer and information regarding complete line see page 42

Key of abbreviations, page 46

Trade Name and Model	General				Engine								Electrical System		Clutch		Gearset			Universals (Make)	Rear Axle			Gear Ratios		Brakes, Location	Front Axle Make and Model	Springs (Make)	Steering Gear (Make)	Wheels (Make)	Rims (Make)	Chassis Weight (lbs.) (stripped)
	Chassis Price	Standard Wheelbase (inches)	Tire Size §§ Front (inches)	Tire Size §§ Rear (inches)	Make and Model	Bore and Stroke (inches)	N.A.C.C. Rated H.P.	Valve Arrangement	Oiling System	Governor (Make)	Radiator (Make)	Fuel System: Carburetor (Make)	Fuel System: Fuel Feed	Ignition System (Make)	Generator and Starter (Make)	Make	Type	Make and Model	Location	No. of Forward Speeds		Make and Model	Final Drive	Type	Total Reduction in High	Total Reduction in Low						
1000 Pounds																															
Chevrolet Sup.Com.Ch	425	103	30x3½*	30x3½*	Own	3⅛x4	21.7	H	PS	Non	Har	Car	V	Rem	Rem	Own	P	Own Sup	U	3	Own	Own Sup	S	½	3.82	12.7	A	Own Sup	S.S	Own	Hay	Jax	1520
Overland..91	395	100	30x3½*	30x3½*	Own 91	3½x4	19.6	L	SP	Non	Own	Til	G	A-L	A-L	B&B	P	Own 91	U	3	Own	Own 91	B	½	4.50	17.6	A	Own 91	Own	Own	Hay	Hay	1472
Star	425	102	30x3½	30x3½	Con	3⅛x4¼	18.2	L	PC	Non	Fed	Til	G	A-L	A-L	Own	P	Own	A	3	Spi	Own	...	½	4.87	16.16	A	Own SE	Own	Own	Hay	Hay	1465
1500 Pounds																															
Dodge Brothers	730	116	32x4*	32x4*	Own	3⅞x4½	24.0	L	SP	Non	McC	Ste	V	N-E	N-E	Own	D	Own	U	3	Own	Own	S	½	4.54	18.9	A	Own	Own	Own	Kel	Kel	1992
Larrabee A1	....	133	29x4½*	29x4½*	Con	3½x4¼	23.4	...	PC	Non	....	....	G	Bos	Bos	B-L	...	B-L	U	3	....	Sal	...	½	5.10	....	...	Sal	....	....	....	....	2730
Rainier...R-31	1970	125	35x5*	35x5*	Con N	3¾x5	22.5	L	PS	Non	Har	Zen	V	Eis	Non	B-L	D	B-L 30	U	3	Har	Tim 6258	W	½	6.75	22.5	A	Tim 1250	Per	Lav	Jon	Fir	2500
White 15	2150	133½	34x5*	34x5*	Own GK	3¾x5½	22.5	L	SP	Non	Own	Zen	G	....	....	Own	D	Own 15	A	4	Spi	Own 15	S	½	4.67	20.2	A	Own 15	....	Own	Hoo	Fir	3225
White 15-45	2950	143½	34x5*	34x5*	Own GR	4¼x5¾	28.9	L	PC	Own	Own	Zen	V	....	....	Own	D	Own	U	4	Spi	Own	S	½	5.36	26.7	A	Own	....	Own	Hoo	Fir	3575
Yellow Cab Mod T3	1295	109	29x4½*	29x4½*	Con V-7	3¾x5	22.5	L	PS	Non	Lon	Zen	G	Bos	N-E	B-L	D	B-L 30Y	U	3	Spi	Tim 5331	B	½	4.90	16.3	B	Tim 1341 Dey	Mar	Gem	Mot	Fir	2500
1 Ton																															
Acme Flyer	....	130	30x5*	30x5*	Con S4	4¼x4½	28.9	L	FP	Non	Per	Zen	V	Bos	Bos	B-L	D	B-L31	U	3	Blo	Col 53000	S	F	5.10	24.4	A	Col 5000S	Det	Ros	Smi	Fir	3125
Autocar F	....	97	34x4‡	34x6‡	Own 2	4¾x4½	18.1	L	SP	Non	Own	Str	G	Bos	.....	Own	P	Own F	A	3	Spi	Own F	R	F	8.30	33.2	A	Own F	Del	Ros	Hoo	....	3800
Autocar G	....	120	34x4‡	34x6‡	Own 2	4¾x4½	18.1	L	SP	Non	Own	Str	G	Bos	.....	Own	P	Own F	A	3	Spi	Own F	R	F	8.30	33.2	A	Own F	Del	Ros	Hoo	....	3900
Available L-1	....	133	33x5*	33x5*	Her O	4 x5	25.6	L	PC	Non	Chi	Zen	G	Bos	Bos	B-L	D	B-L 30	U	3	Spi	Cla B307	B	½	5.6	23.4	A	Shu 5504	Tut	Ros	Bim	Fir	3100
§Bethlehem KN	1595	125	33x5*	33x5*	Own KN	3½x5	19.6	L	FP	Non	Bus	Zen	V	Bos	G&D	B&B	P	Ful SU	U	3	Spi	Eat 1000	B	½	6.86	27.4	...	Eat 750	Mat	Ros	Van	Fir	2880
Bets J-3	1850	140	34x5*	34x5*	Own J-3	3¾x5¼	22.3	L	...	Non	Chi	Zen	G	Bos	Bos	B-L	D	B-L 30	U	3	Pet	Tim 6352	W	½	....	....	A	Tim 1250	Mar	Ros	.....	Fir	3150
Biederman	....	138	34x5	34x5	Con 8R–6	3⅞x4½	27.3	L	PC	Non	Own	Zen	G	Del	A-L	B-L	D	B-L 31	U	3	Spi	Cla	B	½	5.5	27.	A	Shu	Mat	Ros	Cla	Fir	3200
Casco A	1700	130	34x5*	34x5*	Bud WTU	3¾x5½	22.5	L	PC	Non	G&O	Zen	V	Bos	Bos	Ful	D	Ful SUI	U	3	Spi	Col 5200	S	¾	5.85	23.4	A	Col 5000	Per	Woh	Arc	Fir	3200
§Chevrolet Sup	550	124	30x3½*	30x5*	Own Sup	3⅛x4	21.7	H	PS	Non	Har	Car	V	Rem	Rem	Own	P	Own Sup	U	3	Own	Own Sup	S	½	5.43	18.0	A	Own Sup	S.S	Own	Hay	Jax	1955
Chicago	....	132	30x5*	30x5*	Her OX	4 x5	25.6	L	PC	Non	Chi	Zen	G	Apo	A-L	B-L	D	B-L 31	U	3	Pic	Cla B307	B	½	5.66	.....	A	Tim 1250	Mat	Ros	StM	Fir	3240
Clydesdale 16	....	140	34x5*	34x5*	Con S4	4¼x4½	28.9	L	FP	Non	Own	Zen	V	Bos	Bos	B-L	D	B-L31	U	3	Spi	Tim 5620	B	F	6.43	30.86	A	Tim 1250	Per	Ros	StM	Fir	3450
Commerce Distributor	1395	130	30x5	30x5	Con 7U	3½x4¼	23.4	L	PC	Non	Rac	Zen	V	Bos	Bos	Hoo	P	Cov JUH	U	3	Thei	Cla B365	B	½	5.66	20.5	A	Fli	Bea	Ros	Smi	Fir	2900
Denby 41	....	128	34x5	34x5	Her O	4 x5	25.6	L	PC	....	Lon	Zen	G	A-L	A-L	Ful	D	Ful	U	3	U-P	Col	S	¾	5.8	23.2	...	Con	Det	Ros	StM	Fir	3315
§Diamond T75	....	130	30x5*	30x5*	Her OX	4 x5	25.6	L	PC	Non	G&O	Zen	G	Apo	A-L†	Cov	D	Cov JUC	A	3	Spi	Col 53008	B	¾	5.12	18.6	A	Col 5306	Mat	Gem	StM	Fir	2825
Dorris K-2	2490	Opt	33x5*	33x5*	Own	4 x5½	25.6	H	PS	Non	Mod	Str	V	Bos	Wes	Own	D	W-G	U	3	Spi	Tim 5512	B	½	4.23	15.6	A	Tim 1250	Row	Ros	Mun	.....	2000
Duplex G	....	132	33x5*	33x5*	Bud WTU	3¾x5½	22.5	L	PC	Non	Mod	Zen	V	Bos	Bos	B-L	D	B-L	U	3	Pet	Tim	B	½	5.50	22.0	A	Tim 1250	Pen	Ros	Mot	Fir	3300
Federal Knight	1095	124	32x4½	32x4½	Kni	3⅝x4½	21.0	S	PC	Non	Own	Zen	G	Eis	A-L	B&B	P	Own	U	3	U-M	Tim 5310	B	½	6.11	22.3	A	Own	Mat	Gem	Mot	Fir	2400
§Ford T	365	123	30x3½*	30x5	Own T.T.	3¾x4	22.5	L	SP	Non	Own	Own	G	Own	Own	Own	D	Own TT	U	2	Own	Own TT	W	½	Opt	19.9	B	Own TT	Own	Own	Own	Own	1572
§Garford 15	....	132	34x5*	34x5*	.....	3⅝x5½	21.0	L	PC	Non	....	....	G	....	....	....	P	Own 15	U	3	....	.....	W	½	6.50	.....	A	Own 15	....	....	....	....	3500
§Gary Express	1590	132	35x5	35x5	Bud WTU	3¾x5½	22.5	L	PC	....	Chi	Str	V	Eis	Rem	Ful	D	Ful TU¾	U	3	Blo	Tim 5511	W	½	5.50	24.7	A	Tim 1250	Det	Ros	Pru	Gdy	3200
§GMC K-17	....	136	34x5*	34x5*	Own K-17	3¾x6	20.3	L	FP	Own	McC	Mar	V	Eis	Rem	Own	D	Own K-17	U	3	U-M	Own K-17	B	¾	6.1	21.9	E	Own K-17	Own	Own	Kel	.....	3433
Gotfredson 20 B	....	131	33x5*	33x5*	Bud WTU	3¾x5½	22.5	L	PC	Non	McC	Zen	V	Rem	Rem	B&B	P	B-L 20	U	3	Spi	Cla-B307	B	½	5.00	15.0	B	Sal 1546-E	Det	Gem	Van	Fir	3300
§Graham Bros. BB	995	130	33x5	33x5*	Dodge	3⅞x4½	24.0	L	PS	Non	McC	Ste	V	N-E	N-E	Dod	D	Dod	U	3	U-P	Own	S	½	5.10	21.3	A	Dod	Det	Dod	StM	Fir	2630
Gramm-Bern.10	....	129	33x5*	33x5*	Lyc CT	3¾x5	22.5	L	PC	Non	Own	Zen	G	A-L	A-L	Mun	D	Mun AS11T23N	U	3	Pic	Sal 1483	B	¾	5.85	23.4	B	Sal 1453	Per	Ros	Ind	Fir	2370
Gramm-Kincaid 233N	....	133°	30x5*	30x5*	Lyc CT	3¾x5	22.5	L	FP	Non	Own	Zen	G	A-L	A-L	Mun	D	Mun T23	U	3	Thei	Eat 1002	B	½	5.33	21.3	B	Col 5300	Mat	Ros	.....	Fir	3485
Gramm-Kincaid 263N	....	133°	30x5*	30x5*	Con 8R	3⅝x4½	27.3	L	FP	Non	Own	Zen	G	A-L	A-L	Mun	D	Mun T23	U	3	Thei	Eat 1002	B	½	5.33	21.3	B	Col 5300	Mat	Ros	.....	Fir	3585
Grass Premier 40	1550	130	30x5	30x5	Lyc CT	3¾x5	22.6	L	PC	Non	Chi	Str	V	Bos	Bos	B-L	D	B-L 31	U	3	Spi	Cla B366	S	½	5.1	21.2	B	Con	Det	Ros	Van	Fir	2370
Indiana 11	....	129°	30x5	30x5	Her OX	4 x5	25.6	L	PC	Non	McC	Str	G	A-L	A-L	B&B	P	B-L 31	U	3	Blo	Cla 307	S	½	5.66	22.6	A	Sal D	She	Ros	Bim	Fir	3300
Internt'l "S"	....	124	32x4½*	32x4½*	Lyc-Spec	3½x5	19.6	L	PC	Non	Lon	Zen	G	Rem	Rem	Lon	P	Own	U	3	M.M	Eat	B	½	5.66	22.6	A	Eat	....	CAS	.....	.....	2800
Kenworth OS	2150	131	30x5	30x5	Bud WTU	3¾x5½	22.5	L	PC	Non	Own	Str	V	Rem	Rem	B-L	D	B-L 31	U	3	Spi	She W 1002	W	½	6.00	28.8	A	She 33FA500	Lah	Ros	Smi	Fir	4100
King-Zeitler 25	....	134°	30x5*	3x5*	Con S4	4¼x4½	28.9	L	FP	Non	Chi	Str	G	Eis	Bos‡	B-L	D	B-L 31	U	3	Pic	Tim 5620	B	F	5.1	24.5	A	Tim 1250	Mar	Ros	StM	Fir	3500
Kissel	1585	140	34x5*	34x5*	Own	3⅞x5½	24.1	L	SP	Non	McC	Str	V	Rem	Rem	W-G	D	W-G T38L	U	3	Spi	Tim 6258	W	...	6.2	22.8	A	Tim 1452	Mat	Jac	Std	Sch	3780
Kleiber	2600	130	34x4	34x6	Con J4	3¾x4	22.5	L	FP	Non	R-T	Str	V	Bos	Non	B-L	D	B-L 35	U	4	Spi	Tim 6462	W	½	6.75	.....	A	Tim	Bet	Ros	Smi	Fir	....
LeMoon GP-1	....	151	34x5*	34x5*	Con S4	4¼x4½	28.9	L	FP	Non	Chi	Str	G	Bos	Bos	B-L	D	B-L 31	U	3	Spi	Cla B365	B	½	5.6	.....	A	Tim 1250	Tut	Ros	StM	.....	2700
Luedingnaus	....	132	34x4½*	34x4½*	Wau V	4 x5	25.6	L	PC	Non	Own	Zen	G	Spl	Dyn	B&B	P	D-G D-Y	U	3	.....	Wis 800G	W	½	.....	.....	A	Col 5000	.....	Lav	.....	Fir	2850
Master 11B	....	132	33x5*	33x5*	Bud WTU	3¾x5½	22.5	L	...	....	....	Zen	..	Bos	Bos	Ful	D	Ful SU	...	3	Spi	Cla	S	...	5.0	.....	...	Tim	Ros	.....	.....	.....	.....
§Menominee	....	132	35x5*	35x5*	Wis SU	4 x5	25.6	H	PC	Non	Per	Zen	G	Eis	Bos	B&B	P	Det KY400	U	3	Blo	Col	S	½	4.58	18.3	A	Col	Per	Lav	Std	Fir	2925
Moreland R-R	1875	130	30x5	30x5*	Her OBX	4 x5	25.6	L	PC	Non	Own	Zen	G	A-L	A-L	B-L	D	B-L 31	U	3	Pet	Tim 5518	B	½	4.63	22.2	A	Tim 1250	U-S	Ros	.....	Fir	3335
Moreland RC	2280	180	32x6*	32x6*	Her OBX	4 x5	25.6	L	PC	Non	Own	Zen	G	A-L	A-L	B-L	D	B-L 30	U	3	Pet	Tim 5512	B	½	5.37	22.0	A	Tim 1250	U-S	Ros	Own	Gdy	3850
§Nash 2018	1595	130	34x4‡	34x5‡	Own 4	3¾x5½	22.5	L	F	Sim	Lon	Str	G	Eis	A-L	B&B	P	D-G C	U	3	Own	Cla 1-D	I	D	6.80	21.8	D	Own 2018	Har	Lav	A-W	.....	3400
Noble A-76	1775	143	30x5	32x6	Bud WTU	3¾x5½	22.5	L	PC	Non	Chi	Str	V	Spl	Bos	Ful	D	Ful SU12	U	3	Blo	Cla B-360	B	½	6.28	25.1	B	Shu 310	Tut	Ros	Bim	Fir	3400
Ogden A2	....	125	34x5*	34x5*	Con N	3¾x5	22.5	L	PS	Non	Chi	Zen	V	Eis	Rem	B-L	D	B-L 30	U	3	Pic	Tim 6258	W	½	5.60	18.6	A	Tim 1250	Tut	Ros	Bim	Gdy	3100
Penn	780	122	30x3½*	32x4½*	Overland	3½x4	19.6	L	...	Non	Own	Til	G	A-L	A-L	B&B	P	Own	U	3	Own	She	W	½	5.50	20.0	A	Own	Own	Own	Sch	Fir	2175

For full name and address of manufacturer and information regarding complete line see page 42

Key of abbreviations, page 46

Trade Name and Model	General: Chassis Price	General: Standard Wheelbase (inches)	General: Tire Size §§ Front (inches)	General: Tire Size §§ Rear (inches)	Engine: Make and Model	Engine: Bore and Stroke (inches)	Engine: N.A.C.C. Rated H.P.	Engine: Valve Arrangement	Engine: Oiling System	Engine: Governor (Make)	Engine: Radiator (Make)	Engine: Fuel System: Carburetor (Make)	Engine: Fuel System: Fuel Feed	Electrical System: Ignition System (Make)	Electrical System: Generator and Starter (Make)	Clutch: Make	Clutch: Type	Gearset: Make and Model	Gearset: Location	Gearset: No. of Forward Speeds	Universals (Make)	Rear Axle: Make and Model	Rear Axle: Final Drive	Rear Axle: Type	Gear Ratios: Total Reduction in High	Gear Ratios: Total Reduction in Low	Brakes, Location	Front Axle Make and Model	Springs (Make)	Steering Gear (Make)	Wheels (Make)	Rims (Make)	Chassis Weight (lbs.) (stripped)
1 Ton—Con'd																																	
Rainier R-29	2150	133	35x5*	35x5*	Con N	3¾x5	22.5	L	PS	Mon	Har	Zen	V	Eis	Bos‡	B-L	D	B-L 30	U	3	Spi	Tim 6258	W	½	6.75	22.5	A	Tim 1250	Per	Lav	Jon	....	2700
Ruggles 16	....	122	30x5	30x5	Lyc CT	3¾x5	22.5	L	PC	Non	Per	Zen	G	Rem	Rem	B-L	D	B-L	U	3	Spi	Col 30000	B	¾	4.7	15.7	A	Col 3000	Det	Lav	Nor	Fir	2200
Sandow G	....	120	32x6	32x6	Bud WTU	3¾x5	22.5	L	PS	Non	Chi	Str	G	Eis	Non	Ful	D	Ful TU¾	U	3	Spi	Cla	W	....	5.5	23.4	A	Shu 310	.....	Ros	Opt	Fir	3000
Sandow GA	....	130	32x6	32x6	Her OX	4 x5	25.6	L	PC	Non	Own	Str	G	Bos	A-L	Ful	P	Ful TU¾	U	3	Spi	Cla	S	½	5.5	15.6	A	Shu 310	Mar	Lav	Dis	Fir	3000
Schacht	....	132	30x5*	30x5*	Wis SU	4 x5	25.6	H	PC	Non	Own	Zen	V	Bos	Non	Ful	D	Ful GU-7	U	4	Blo	Wis 41D	R	½	6.00	28.8	A	Shu 510	She	Ros	....	....	3755
Service 25F	....	132	30x5*	30x5*	Bud WTU	3¾x5⅛	22.5	L	PC	Non	Own	Zen	V	Rem	Rem	B&B	P	B-L 30	U	3	M-E	Eat 1500	B	½	5.62	23.0	A	Shu 310	She	Ros	Smi	Fir	3675
Stewart 16	1195	130	34x4½*	34x4½*	Lyc CT	3¾x5	22.5	L	FP	Non	Own	Zen	G	Rem	Rem‡	Ful	D	Ful SU-1	U	3	Spi	Cla B-365	B	¾	5.10	24.0	A	Col 3008	Det	Gem	Ind	Fir	2700
United 15	....	125	32x4½	32x4½	Own	3½x5	19.6	L	PC	Non	Per	Zen	G	A-L	A-L	B-L	D	B-L	U	3	Blo	Cla B-365	....	½	5.1	....	A	Shu 5400	Det	Lav	....	Fir	....
Wachusett S	....	152	34x5	34x5	Con 8R	3½x4½	27.3	L	PC	Non	G&O	Zen	V	Bos	Bos	B-L	D	B-L 30	U	3	Har	Tim 5511	W	¾	5.50	22.5	....	Tim 1250	Sav	Ros	Smi	Fir	3300
Wilcox AA	1900	130	35x5‡	35x5‡	Bud WTU	3¾x5⅛	22.5	L	PC	Dup	.....	Str	V	Bos	Wes‡	B-L	D	B-L 30	U	3	Spi	Rus 3600-B	W	½	7.70	25.8	A	Shu 350	She	Gem	.....	.....	3600
Yellow Cab T1	1450	130	33x5*	33x5*	Con V4	3¾x5	22.5	L	PS	Non	Lon	Zen	V	Bos	N-E	B-L	D	B-L 35	U	4	Spi	Tim 5516	B	½	5.37	17.3	B	Tim 1341EGO	Mar	Gem	Mot	Fir	3130
Yellow Cab T-1	1550	150	33x5	33x5	Con V4	3¾x5	22.5	L	PS	Non	Lon	Zen	V	Bos	N-E	B-L	D	B-L 35	U	4	Spi	Tim 5516	B	½	5.37	17.3	B	Tim 1341EGO	Mar	Gem	Mot	Fir	3210
1¼ Ton																																	
Autocar F	....	97	34x4‡	34x6‡	Own 2	4¾x4½	18.1	L	SP	Non	Own	Str	G	Bos	.....	Own	P	Own F	A	3	Spi	Own F	R	F	8.30	33.2	A	Own F	Del	Ros	Hoo	.....	3800
Autocar G	....	120	34x4‡	34x6‡	Own 2	4¾x4½	18.1	L	SP	Non	Own	Str	G	Bos	.....	Own	P	Own F	A	3	Spi	Own F	R	F	8.30	33.2	A	Own F	Del	Ros	Hoo	....	3900
Biederman	....	154	34x5	34x6	Con 6M-6	3½x4½	27.3	L	PC	Han	Own	Zen	G	Del	A-L	B-L	D	B-L 31	U	3	Spi	Tim	W	½	7.2	35.0	A	Shu	Mat	Ros	StM	Non	3600
Brockway E	....	135	33x5	33x5	Wis SU	4 x5	25.6	H	FP	Non	G&O	Zen	V	Eis	L-N	B-L	D	B-L 30	U	3	Spi	Col 52024	B	¾	5.12	.....	A	Col	She	Gem	Hoo	Fir	3125
Brockway E7	....	153	32x6	32x6	Wis 6Y	3⅞x5	27.3	H	FP	Non	G&O	Zen	V	Eis	L-N	B-L	D	B-L 30	U	3	Spi	Col 53000	B	¾	5.12	.....	A	Col	She	Gem	Van	Fir	4000
Brockway E8	....	153	32x6	32x6	Wis SU	4 x5	25.6	H	FP	Non	G&O	Zen	V	Eis	L-N	B-L	D	B-L 30	U	3	Spi	Col 53003	B	¾	5.12	.....	A	Col	She	Gem	Van	Fir	4000
Clinton 20B	1980	150	30x5	30x5	Bud WTU	3¾x5⅛	22.5	L	PC	Non	Own	Zen	V	Bos	Bos	B-L	D	B-L 31	U	3	M-E	Cla B501	B	½	6.28	29.5	A	Shu 5405	Per	Ros	StM	Fir	3450
Clinton 20	2070	150	30x5	30x5	Bud WTU	3¾x5⅛	22.5	L	PC	Non	Own	Zen	V	Bos	Bos	B-L	D	B-L 31	U	3	M-E	Tim 6258	W	½	6.25	30.0	A	Tim 1250	Per	Ros	StM	Fir	3450
Clydesdale 10A	....	154	34x5*	34x5*	Con J-4	3¾x5	22.5	L	FP	Non	Own	Zen	V	Bos	Bos	B-L	D	B-L 31	U	3	Spi	Tim 6258	W	½	6.75	32.4	A	Tim 1250	Per	Ros	Smi	Fir	3250
Corbitt 25	....	140	34x5	34x5	Con S4	4¼x4½	28.9	L	FP	Non	McC	Str	V	Bos	Bos	B-L	D	B-L 31	U	3	Spi	She W-1501	W	½	7.8	25.9	A	She EA500	She	Ros	Smi	Fir	4100
Defiance G2	....	128	35x5	35x5	Con J4	3¾x5	22.5	L	PC	Non	Chi	Zen	V	Bos	Bos	Ful	D	Ful SU2	U	3	Har	Eat 1000	B	½	6.14	24.5	A	Col 7000	Det	Lav	StM	Fir	2900
Defiance GL2	....	140	35x5	35x5	Con J4	3¾x5	22.5	L	PC	Non	Chi	Zen	V	Bos	Bos	Ful	D	Ful SU2	U	3	Har	Eat 1000	B	½	6.14	24.5	A	Col 7000	Det	Lav	StM	Fir	3050
Diamond T 04	....	132	36x4	36x5	Hin HAA400	4 x5½	25.6	L	FP	Non	G&O	Str	V	Bos	Non	Cov	D	Cov JUC	A	3	Spi	Tim 6258	W	½	6.25	22.47	A	Shu 510	Mat	Ros	StM	....	4300
Eagle 101	....	134°	34x5*	34x5*	Bud WTU	3¾x5⅛	22.5	L	PC	Opt	Own	Zen	G	Eis	Bos‡	Cov	D	Cov C	U	3	M-E	Tor 1000	I	D	6.60	24.0	A	Col 5000	Cha	Ros	Std	Fir	2800
Federal R-3	1675	132	33x5*	33x5*	Con J-4	3¾x5	22.5	L	FP	Non	Own	Zen	V	Eis	Rem	B&B	P	Det	U	3	Spi	Tim 6250	W	½	5.60	18.7	A	Tim 1250	.....	Gem	Dis	....	2950
Gramm-Bernstein 10	....	129	33x5*	33x5*	Lyc CT	3¾x5	22.5	L	PC	Non	Own	Zen	G	A-L	A-L	Mun	D	Mun AS11T23N	U	3	Pic	Sal 1483	B	¾	5.85	23.4	B	Sal 1453	Per	Ros	Ind	Fir	2370
Gramm-Kincaid 233N	....	133°	30x5*	30x5*	Lyc CT	3¾x5	22.5	L	FP	Non	Own	Zen	G	A-L	A-L	Mun	D	Mun T23	U	3	Thei	Eat 1002	B	½	5.33	21.3	B	Col 5300	Mat	Ros	.....	Fir	3485
Gramm-Kincaid 263N	....	133°	30x5*	30x5*	Con 8R	3⅜x4½	27.3	L	FP	Non	Own	Zen	G	A-L	A-L	Mun	D	Mun T23	U	3	Thei	Eat 1002	B	½	5.33	21.3	B	Col 5300	Mat	Ros	.....	Fir	3585
Guilder B	1650	132	33x5*	33x5*	Bud WTU	3¾x5⅛	22.5	L	.....	.....	G&O	Zen	G	Eis	Bos	B-L	....	B-L31	.....	.....	.....	Cla 366	.....	.....	5.5	.....	.....	Shu 5405	Mer	Ros	Ind	Fir	3250
Guilder B-6	1750	132	33x5*	33x5*	Con 8R	3⅜x4½	27.3	.....	.....	.....	G&O	Zen	G	Eis	Bos	B-L	....	B-L 31	.....	.....	.....	Cla 366	.....	.....	5.5	.....	.....	Shu 5405	Mer	Ros	Ind	Fir	3000
Hahn B2	1800	136	34x5	34x5	Her OX	4 x5	25.6	L	FP	Non	Chi	Str	G	Con	Bos	B-L	D	.....	U	3	Spi	Cla 365	B	.....	6.00	.....	A	Wis 10A	She	Ros	Opt	Opt	2900
§Larrabee-Deyo X-21	....	138°	32x6	32x6	Con 8R-6	3½x4½	27.3	L	PC	Opt	Fed	Zen	G	Bos	Bos	B-L	D	B-L 31	U	3	Spi	Tim 5620	B	F	5.37	25.8	A	Tim 1250	She	Gem	Smi	Fir	3550
Maccar EX	....	138	34x5*	34x5*	Wis SU	4 x5	25.6	H	PC	Non	Own	Zen	V	Bos	Bos	B-L	D	B-L 31	U	3	Spi	Sal 1526E	B	¾	5.85	28.0	A	Sal 1525E	Row	Ros	Van	Gdy	3400
Master 11	....	132	35x5*	35x5*	Bud WTU	3¾x5½	22.5	L	PC	Non	Chi	Zen	G	Wes	Wes	Ful	D	Ful SU	U	3	Spi	Tim 5620	B	½	5.50	22.0	A	Tim	Det	Ros	StM	Fir	3200
Menominee HT	....	130	34x3½‡	36x5‡	Wis SU	4 x5	25.6	H	PC	Mon	Own	Zen	V	Eis	Bos	Det	D	Cot AAU	U	3	Spi	Wis	W	½	7.75	28.5	A	Shu	Tut	Ros	Std	Fir	3525
Northway Rocket	1390	138	32x4½	32x4½	Own R	3½x5	23.4	L	.....	.....	Own	She	...	Bos	Bos	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ros	.....	.....	2750
Patriot 17R	....	129	30x5*	32x6*	Bud WTU	3¾x5½	22.5	L	PC	Non	Own	Mod	Zen	V	Bos	Bos	B&B	P	.....	.....	A	3	The	Tim 6258	W	½	5.6	22.8	A	Shu	Mar	CAS	Bim	Fir	3200
§Reo F	1185	128	33x5*	33x5*	Own F	4½x4½	27.2	D	PS	Non	Own	Joh	G	N-E	N-E	Own	D	Own	A	3	Own	Own	S	½	4.70	17.3	A	Own	Pen	Own	Mot	Fir	2705
Republic 75	....	124	33x5*	33x5*	Lyc CT	3¾x5	22.5	L	PC	Non	Per	Str	V	Bos	Bos	Ful	D	Ful	U	3	Spi	Eat	I	D	5.65	22.6	A	Eat	Mat	Lav	Nor	Fir	2700
§Ruggles 20R	....	128	34x5*	34x5*	Her O	4 x5	25.6	L	PC	Non	Per	Zen	G	Rem	Rem	B-L	D	B-L 31	U	3	Blo	Col 53000	S	¾	5.12	20.4	A	Col 5300	Det	Jac	Nor	Fir	2950
Sanford W6-12	....	151	30x5	30x5	Con8-R-6	3⅜x4½	27.3	L	PC	Non	R-T	Str	G	Con	Dyn	Ful	D	Ful 5010	U	3	Spi	Eat	B	½	5.3	21.2	A	Eat	She	Ros	Van	Gdy	2960
Selden Pacemaker24	....	144	30x5	30x5	Her O	4 x5	25.6	L	PC	Non	Own	Str	G	Bos	Bos	B-L	D	B-L 31	U	3	.....	Cla	B	F	.....	.....	A	Cla	.....	Ros	Van	.....	3580
Selden Pacemaker26	....	144	30x5	30x5	Con 8R-6	3½x4½	27.2	L	PC	Non	Own	Str	G	Bos	Bos	B-L	D	B-L 31	U	3	.....	Cla	B	F	.....	.....	A	Cla	.....	Ros	Van	.....	3580
§Standard 75	....	134°	34x5	34x5	Con J 4	3¾x5	22.5	L	PS	Sim	Lon	Str	V	Eis	Bos‡	B-L	D	B-L 31	U	3	Spi	Tim 6250	W	½	5.60	24.3	A	Tim 1250	Amc	Gem	StM	Fir	3000
Stewart 16X	1295	130	33x5*	33x5*	Lyc	3¼x4½	25.3	L	FP	Non	Own	Zen	G	Rem	Rem	Ful	D	Ful	U	3	.....	Cla	B	½	5.1	24.0	A	.....	.....	Gem	.....	Fir	2750
Stoughton C	....	131	34x4½*	34x4½*	Own	3¾x4½	27.3	I	FP	Non	Chi	Zen	V	Rem	Rem	Det	D	Own	U	3	The	Col 53000	S	¾	5.87	20.0	A	Col 5300	Own	Ros	Bim	Gdy	2480
§U. S. U.	2085	138	34x5*	34x5*	Bud WTU	3¾x5⅛	22.5	I	PC	Non	Lon	Str	V	Bos	Bos	Ful	D	Ful LTU5	U	3	Blo	Cla B 501	B	½	6.25	25.0	A	Shu 350	She	Lav	Sch	Fir	3400
United 20	....	130	30x5*	30x5*	Own	4 x5	25.6	L	PC	....	Own	Zen	...	Bos	.....	B-L	D	B-L	U	3	.....	Cla	B	½	5.1	.....	A	.....	.....	Lav	.....	.....	.....
United 25	....	131	30x5	30x5	Her OX	4 x5	25.6	I	PC	Non	Per	Str	G	Bos	Bos	B-L	D	B-L 31	U	3	Blo	Col 53000	B	¾	5.10	23.7	A	Shu 310	Det	Lav	Van	Fir	2910
Victor 25	1500	131	33x5*	33x5*	Her O	4 x5	25.6	I	FP	Non	Per	Zen	V	A-L	A-L	Ful	D	Ful SU12	U	3	Pic	Col 53000	S	¾	5.1	20.4	B	Col 53000	Det	Lav	Van	Fir	3000
1½ Ton																																	
§Acme 20L	....	136	34x5*	34x5††	Con 8R	3⅜x4½	27.3	L	PC	Non	G&O	Zen	V	Bos	Bos‡	B-L	P	B-L	U	3	Blo	Tim 6258	W	½	6.25	30.0	A	Tim 1452	Det	Ros	Bim	Fir	3565
§Armleder 30	....	148°	34x4‡	34x6‡	Her OX	4 x5	25.6	L	PC	Non	Own	Zen	V	Bos	Bos‡	B-L	D	B-L	U	4	Spi	Tim	W	½	7.25	39.0	A	Tim	She	Ros	StM	Gdy	4400
Armleder 30B	....	148	34x4	34x6	Bud KBUI	4 x5¼	25.6	L	PC	Non	Own	Zen	V	Bos	Bos	B-L	D	B-L	U	4	Spi	Tim	W	½	7.25	39.0	A	Tim	She	Ros	StM	Gdy	4400
Atterbury 24R	2450	150°	34x4‡	34x6	Bud KTU	4 x5¼	25.6	L	PC	Non	Own	Zen	V	Bos	Bos	B-L	D	B-L 31	U	3	Spi	Tim 6462	W	¾	6.50	31.2	A	Tim 1460	S.P	Gem	Arc	Fir	4750
§Autocar F	....	97	34x4‡	34x6‡	Own 2	4¾x4½	18.1	L	SP	Non	Own	Str	G	Bos	.....	Own	P	Own F	A	3	Spi	Own F	R	F	8.30	33.2	A	Own F	Del	Ros	Hoo	....	3800
§Autocar G	....	120	34x4‡	34x6‡	Own 2	4¾x4½	18.1	L	SP	Non	Own	Str	G	Bos	.....	Own	P	Own F	A	3	Spi	Own F	R	F	8.30	33.2	A	Own F	Del	Ros	Hoo	....	3900
Available L-1½	....	154	34x4	34x5	Her O	4 x5	25.6	L	PC	Non	Chi	Zen	G	Bos	Bos	B-L	D	B-L 31	U	3	Spi	Cla B501	½	B	6.25	31.2	A	Shu 5504	Tut	Ros	Bim	Fir	3600
Biederman	....	166°	34x5	34x4†*	Con 6M-6	3¾x4½	27.3	L	PC	Non	Own	Zen	G	Del	Del	B-L	D	B-L 31	U	3	Spi	Tim	W	½	7.75	38.0	A	Shu	Mat	Ros	StM	Non	4600
Brinton C	2500	138	34x4	34x5	Con N	3¾x5	22.5	L	PS	Non	Bus	Str	G	Bos	Non	B-L	D	B-L	U	3	Spi	Tim 6560	W	¾	.....	33.6	....	Tim 1542	Tut	Ros	Sch	....	3900
Buck 34	....	160°	32x6*	32x6*	Con S4	4¼x4½	28.9	L	PC	Pie	Own	Zen	V	Bos	Bos	B-L	D	B-L 31	U	3	Spi	Tim 6258	W	½	6.25	25.0	A	Tim 1460	Mat	Ros	Smi	Fir	3600
Buck 36	....	160°	32x6*	32x6*	Con 8R	3½x4½	27.3	L	PC	Pie	Own	Zen	V	Bos	Bos	B-L	D	B-L31	U	3	Spi	Tim 6258	W	½	6.25	25.0	A	Tim 1460	Mat	Ros	Smi	Fir	3500
Chicago	....	145	34x3½‡	34x5‡	Her OX	4 x5	25.6	L	PC	Non	Chi	Zen	G	Apo	A-L‡	B-L	D	B-L 31	U	3	Pet	Tim 6462	W	½	7.00	.....	A	Tim 1460	Mat	Ros	StM	Fir	4000
Clydesdale 12	....	152	32x6*	32x6*	Con 8R	3½x4½	27.3	L	PC	Non	Own	Str	V	Bos	Bos	B-L	D	B-L 31	U	3	Spi	Tim 6258	W	½	6.75	32.4	A	Tim 1250	Per	Ros	Smi	Fir	3600
Clydesdale 14	....	174	32x6*	32x6*	Con 8R	3⅜x4½	27.3	L	PC	Non	Own	Str	V	Bos	Bos	B-L	D	B-L 31	U	3	Spi	Tim 6258	W	½	6.75	32.4	A	Tim 1250	Per	Ros	Smi	Fir	3700
§Commerce Super 11	....	142	34x5	36x6	Con S4	4¼x4½	28.9	L	FP	Non	Lon	Zen	V	Bos	Bos	Ful	D	Ful SU12	U	3	Blo	Cla B-501	S	½	6.28	22.0	A	Fli	Bea	Ros	Smi	Fir	3575

Concord EO	2500	135	32x6	32x6	Bud KBU	4 x5¼	25.6	L	PC	Zen	Own	Zen	V	Bos	Bos	B-L	D	B-L	U	3	Spi	Tim 6352	W	½	6.2	24.8	A	Tim 1452	.....	Ros	Arc	Fir	3500
Dart S	....	....	34x3½	34x6	Bud WTU	3¾x5⅛	22.5	....	Non	....	Zen	....	V	Eis	....	Ful	D	Ful	U	3	Spi	Tim	W	½	7.00	....	A	....	....	....	....	....	....	....
Day-Elder G	128°	....	34x4‡	34x5‡	Bud WTU	3¾x5⅛	22.5	L	PC	Non	Bus	Zen	V	Eis	Bos‡	B-L	D	B-L 20B	U	3	Spi	Tim 6258	W	½	6.25	20.7	A	Col 7018	She	Gem	Van	Fir	3700
Defiance A	....	140	34x4	34x6	Wis CAU	3¾x5	22.5	L	PC	Non	Chi	Zen	V	A-L	A-L	Ful	D	Ful	U	3	Spi	Own	W	½	7.75	....	A	Tim 1520	Det	Lav	StM	....	3315
Defiance D2	....	140	35x5	36x6	Con J4	3¾x5	22.5	L	PC	Non	Chi	Zen	V	Bos	Bos	Ful	D	Ful SU 2	U	3	Har	Wis 66	R	½	7.10	36.6	A	Col 7000	Det	Lav	StM	Fir	3200

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For full name and address of manufacturer and information regarding complete line see page 42

Key of abbreviations, page 46

Trade Name and Model	General: Chassis Price	General: Standard Wheelbase (inches)	General: Tire Size §§ Front (inches)	General: Tire Size §§ Rear (inches)	Engine: Make and Model	Engine: Bore and Stroke (inches)	Engine: N.A.C.C. Rated H.P.	Engine: Valve Arrangement	Engine: Oiling System	Engine: Governor (Make)	Engine: Radiator (Make)	Engine: Fuel System: Carburetor (Make)	Engine: Fuel System: Fuel Feed	Electrical System: Ignition System (Make)	Electrical System: Generator and Starter (Make)	Clutch: Make	Clutch: Type	Gearset: Make and Model	Gearset: Location	Gearset: No. of Forward Speeds	Universals (Make)	Rear Axle: Make and Model	Rear Axle: Final Drive	Rear Axle: Type	Gear Ratios: Total Reduction in High	Gear Ratios: Total Reduction in Low	Brakes, Location	Front Axle Make and Model	Springs (Make)	Steering Gear (Make)	Wheels (Make)	Rims (Make)	Chassis Weight (lbs.) (stripped)
2 Ton—Con'd																																	
Available L-2	....	152	36x4	36x6	Her O	4 x5	25.6	L	PC	Pie	Chi	Zen	G	Bos	Bos‡	B-L	D	B-L 31	U	3	Spi	Tim 6466	W	½	7.25	36.	A	Shu 550	Tut	Ros	Bim	Non	4750
§Bethlehem GN	2495	137½	36x4	36x7	Own GN	4 x5¼	25.6	L	PC	Pie	Bus	Zen	V	Bos	G&D	B&B	P	Ful	U	4	Spi	Wis 60A	R	½	7.75	37.2	A	She D343	Mat	Lav	Smi	....	4100
Brockway S	....	140	34x4	34x6††	Wis SU	4 x5	25.6	H	FP	Han	Bus	Zen	V	Eis	L-N	B-L	D	B-L 30	U	4	Spi	Tim 6462	W	¼	7.25	.....	A	Tim 1452	She	Ros	Hoo	Non	4050
Brockway SK	....	147	34x4	34x6††	Con K4	4 1/8x5¼	27.2	L	FP	Pha	Bus	Zen	V	Eis	L-N	B-L	D	B-L 35	U	4	Spi	Tim 6462	W	½	7.25	.....	A	Tim 1452	She	Ros	Hoo	Non	4200
Buck 44	....	160°	36x4‡	36x7‡	Con S4	4¼x4½	28.9	L	PC	Pie	Own	Zen	V	Bos	Bos	B-L	D	B-L 31	U	3	Spi	Tim 6462	W	½	8.75	46.8	A	Tim 1460	Mat	Ros	Smi	Fir	5000
Buck 46	....	160°	36x4‡	36x7‡	Con 8R	3⅜x4½	27.3	L	PC	Pie	Own	Zen	V	Bos	Bos	B-L	D	B-L 35	U	4	Spi	Tim 6462	W	½	8.75	35.0	A	Tim 1460	Mat	Ros	Smi	Fir	4800
Casco C	2700	130	32x6	36x8	Bud WTU	3¾x5⅛	22.5	L	PC	Non	G&O	Zen	V	Bos	Bos	Ful	D	Ful GU 12	U	4	Spi	Wis 66A	R	½	7.75	37.2	A	Wis 10A	Per	Woh	Arc	Fir	4650
Casco D	2950	170	32x6	36x8	Bud WTU	3¾x5⅛	22.5	L	PC	Non	G&O	Zen	G	Bos	Bos	Ful	D	Ful GU 12	U	4	Spi	Wis 66A	R	½	7.75	37.2	A	Wis 10A	Per	Woh	Arc	Fir	4850
§Clinton 45	2840	163	34x4‡	34x4†	Bud KTU	4 x5¼	25.6	L	PC	K-P	Own	Zen	G	Bos	Bos	B-L	D	B-L 35	U	4	M-E	Tim 6462	W	½	7.75	41.5	A	Tim 1520	Per	Ros	StM	.....	4875
Clydesdale 9	....	160	34x4	34x6	Con S-4	4¼x4½	28.9	L	FP	Own	Own	Zen	V	Bos	Bos*	B-L	D	B-L 35	U	4	Spi	Tim 6462	W	½	7.75	41.46	A	Tim 1460	Per	Ros	Smi	Non	4600
Commerce S14	....	146	36x4	36x7	Con S-4	4¼x4½	28.9	L	FP	Non	Lon	Zen	V	Bos	Bos	B-L	D	B-L 35	U	4	U-M	Tim 6462	W	½	7.00	37.4	A	Tim 1460	Bea	Ros	.....	Fir	4245
Concord G	3250	140	36x6*	36x8	Bud GBU	4 x5½	25.6	L	PC	Pie	Own	Zen	V	Eis	Non	B-L	D	B-L 35	U	4	Spi	Tim 6566	W	½	9.25	49.4	A	Tim 1544	.....	Ros	Arc	Fir	4150
Concord H	3700	150	36x6*	38x7*	Bud EBU	4¼x5½	28.9	L	PC	Non	Own	Zen	V	Eis	Bos	B-L	D	B-L 51	U	4	Spi	Tim 6460	W	½	6.5	36.1	A	Tim 1520	.....	Ros	Arc	Fir	4250
Corbitt C	....	148	36x4‡	36x7‡	Con K-4	4 1/8x5¼	27.2	L	FP	Sim	McC	Str	V	Eis	Bos‡	B-L	D	B-L 35	U	3	Spi	She W-103	W	½	10.6	35.6	A	She 3FA10	She	Ros	Bim	Fir	5265
Day-Elder H	....	144°	34x4‡	34x5‡	Bud WTU	3¾x5⅛	22.5	L	PC	Non	Bus	Zen	V	Eis	Bos‡	B-L	D	B-L 31	U	3	Spi	Tim 6462	W	½	7.75	37.2	A	Col 7018	She	Gem	Van	Fir	4100
Day-Elder HST	....	144°	34x4‡	34x6‡	Bud WTU	3¾x5⅛	22.5	L	PC	Non	Bus	Zen	V	Eis	Bos‡	B-L	D	B-L 31	U	3	Spi	Tim 6462	W	½	7.75	37.2	A	Col 7018	She	Gem	Van	Fir	4100
Day Elder HSM	....	144°	34x4‡	34x5‡	Bud KBU	4 x5¼	25.6	L	PC	Non	Bus	Zen	V	Eis	Bos‡	B-L	D	B-L 31	U	3	Spi	Tim 6462	W	½	7.75	37.2	A	Col 7018	She	Gem	Van	Fir	4300
Day Elder HSMT	....	144°	34x4‡	34x6‡	Bud KBU	4 x5¼	25.6	L	PC	Non	Bus	Zen	V	Eis	Bos‡	B-L	D	B-L 31	U	3	Spi	Tim 6462	W	½	7.75	37.2	A	Col 7018	She	Gem	Van	Fir	4300
Defiance E2	....	140	35x5	38x7	Con J-4	3⅜x5	22.5	L	PC	Non	Chi	Zen	G	Bos	Bos	Ful	D	Ful	U	4	U-P	Cla	I	D	7.25	29.0	...	Con	Det	Ros	StM	.....	3800
Denby 33	....	144	36x3½	36x7	Con J-4	3⅜x5	22.5	L	PC	.....	Lon	Zen	G	Eis	.....	Ful	D	Ful GU7	U	4	Spi	Tim 6462	W	½	.....	.....	A	Tim 1520	S.P	Ros	StM	Fir	4450
Dixon	2800	146	34x4	34x7	Con S4	4¼x4½	28 9	L	FP	Pie	G&O	Zen	V	Bos	Bos	Ful	D	Ful GU7	U	4	Spi	Tim 6462	W	½	7 75	30.0	A	She D343	Pen	Ros	Mot	Fir	4400
Duplex A	....	160	34x4‡	36x7††	Hin HAA	4 x5¼	25.6	L	PC	Non	Mod	Str	V	Eis	Wes	Cov	D	Cov RU3C	U	3	M-E	Rus 6005-I	I	D	8.31	.....	A	Col 7000	Cha	Ros	StM	Fir	4300
Eagle 104	....	130°	34x4‡	34x8	Bud KTU	4 x5¼	25.6	L	PC	Non	Own	Zen	G	Eis	Non	Cov	D	Cov MUC	U	3	M-E	Rus 6005-I	W	¾	5.60	59.7	A	Tim 1460DXZ	Mat	Ros	Van	.....	5500
Fageol 235	3750	150	36x4	34x7††	Wau FU	4 x5¾	25.6	L	PC	Wau	Own	Zen	V	Bos	Bos	B-L	D	Own A	U	7	Spi	Tim 6462	W	½	7.25	36.2	A	Own	Mat	Gem	Mot	.....	....
Federal S27	....	144	34x4	34x5	Kni	3⅝x4½	21.0	...	PC	Non	Own	Zen	V	A-L	A-L	B&B	P	Own	U	3	U-M	Tim 6462	W	½	7.25	38.7	A	Tim 1460	Det	Gem	M-M	Fir	5300
Gotfredson 41	....	146½	36x4	36x8††	Bud KBUI	4 x5¼	25.6	L	PC	Non	McC	Zen	V	RBo	Rem	B&B	P	B-L 35	U	4	Spi	Tim 6462	B	½	6.33	25.3	B	Col 5300	Mat	Ros	.....	Fir	....
Gramm-Kincaid443N	1780	133°	32x6*	32x6*	Lyc C4	4 x5	25.6	L	FP	Non	Own	Zen	G	A-L	A-L	Mun	D	Mun T23	U	3	Thei	Eat 1502	B	½	6.33	25.3	B	Col 5300	Mat	Ros	.....	Fir	....
Gramm-Kincaid463N	2050	133°	32x6*	32x6*	Con 8R	3⅜x4½	27.3	L	FP	Non	Own	Zen	G	A-L	A-L	Mun	D	Mun T23	U	3	Thei	Eat 1502	B	½	6.33	25.3	B	Col 5300	Mat	Ros	.....	Fir	....
Grass Premier 70	2650	144	34x5	34x7	Wau V	4 x5¼	27.2	L	PC	Opt	Chi	Str	V	Eis	Eis	B-L	D	B-I 35	U	4	Spi	Tim 6462	W	½	7.25	36.2	B	Con	Det	Ros	Bim	Fir	4400
Guilder E	2975	152	36x4	36x4††	Bud KBU-I	4 x5¼	25.6	L	PC	Pie	G&O	Zen	G	Eis	Bos	B-L	D	B-L 51	U	4	M-E	Wis 660	R	F	7.75	41.0	...	Shu 5410	Mer	Ros	Van	Non	5100
Guilder E6	3350	152	32x6*	36x8*	Bud 6B	3¾x5	33.8	L	PC	Pie	G&O	Zen	G	Bos	Bos	B-L	D	B-L	U	4	M-E	Wis 660	R	F	7.75	.....	A	Shu 5410	Mer	Ros	Van	Non	....
Hahn K	2850	140°	36x4	36x7	Con K4	4 1/8x5¼	27.2	L	FP	Pha	Chi	Str	G	Bos	Del	B-L	D	.....	U	4	Spi	Tim 6462	W	½	7.00	.....	A	Tim 1520	Tut	Ros	Van	Fir	3670
Hug HA	2085	118	34x5*	34x5†*	Bud WTU	3¾x5⅛	22.5	L	PC	Non	Per	Zen	V	Bos	.....	Ful	D	Ful	U	4	Spi	Tim 6462	R	½	9.00	53.1	B	Own 43	.....	Own	Own	.....	4790
International 43	....	130	36x4‡	36x7‡	Own 43	3¾x5	22.5	H	SP	Own	Own	Own	G	RBo	Own	Own	D	Own 43	A	4	Own	Own 43	I	D	9.00	53.1	B	Own 43	.....	Own	Own	.....	4790
Kearns N1	....	136°	34x4	34x7††	Her O	4 x5	25.6	...	SP	.....	Own	Zen	...	Bos	.....	Ful	D	Ful	U	3	.....	She	W	.....	.....	.....	...	.....	.....	Ros	.....	.....	....
Kenworth M	3100	150	36x4	36x7	Bud KBU	4 x5¼	25.6	L	PC	Non	Own	Zen	V	RBo	Rem	B-L	D	B-L 35	U	4	Spi	She W-103	W	½	7.75	46.8	A	She D343	Lah	Ros	Smi	.....	4620
King Zeither 40	....	156°	34x5‡	34x7‡	Con S4	4¼x4½	28.9	L	PC	Non	Chi	Str	G	Eis	Bos‡	B-L	D	B-L 31	U	3	Pic	Tim 6462	W	½	7.75	37.2	A	Tim 1526	Mar	Ros	StM	Fir	4300
King Zeither 42A	....	156°	32x6*	34x7*	Con 6M-6	3⅜x4½	27.3	L	PC	Non	Chi	Str	G	Bcs	Bos	B-L	D	B-L 31	U	3	Pic	Tim 5620	B	F	6.43	30.9	A	Tim 1460	Mar	Ros	StM	Fir	4300
Lehigh	1695	146	32x6	32x6	Her O	4 x5	25.6	L	FP	Non	Per	Zen	V	Bcs	Bos	Ccv	D	B-L 31	U	3	Pic	Pet 1502	B	½	6.3	22.8	A	Eat 750	Tut	Ros	StM	Fir	3270
LeMoon GP-2	....	Opt	34x4	34x7	Con S4	4¼x4½	28.9	L	FP	Non	Chi	Str	G	Bos	Bos	B-L	D	B-L 31	U	3	Spi	Tim 6462	W	½	7.75	.....	A	Tim 1520	Tut	Ros	Van	Fir	6300
Maccar 46	....	150	32x6	34x7	Wis Y	3⅜x5	27.3	L	PC	Non	Own	Zen	V	Rem	Rem	B-L	D	B-L 35	U	4	Spi	Tim 6462	R	½	5.35	36.9	A	Shu 5410	Row	Ros	Van	Gdy	4700
Mack AB	....	146½	36x4	36x4†	Own AB	4¼x5½	27.3	L	PS	Own	Own	Str	G	Spl	N-E‡	Own	D	Own AB	U	4	Spi	Own AB	C	F	*6.99	33.8*	B	Own AB	Mer	Own	.....	.....	....
Mack AB	....	146½	36x4	36x4†	Own AB	4¼x5½	28.9	L	PS	Own	Own	Str	G	Spl	N-E‡	Own	D	Own AB	U	4	Spi	Own AB	C	F	*7.60	36.8*	B	Own AB	Mer	Own	.....	.....	....
Moreland EC	3780	178	34x5*	34x5*	Con K-4	4 1/8x5¼	27.3	L	FP	Non	Own	.....	G	Eis	A-L	B&B	P	D-G C	A	4	Own	Cla 2D	I	D	9.00	39.0	B	Own 3018	Har	Lav	A-W	.....	3850
§Nash...3018	2150	144	34x4‡	34x7‡	Own 4	3¾x5¼	22.5	L	PS	Sim	.....	Str	G	Eis	A-L	B&B	P	B-L 30	U	3	Spi	Tim 6460	W	½	7.00	23.3	A	Tim 1520	Mat	Ros	Van	Fir	4000
National M	....	137°	34x5*	36x6*	Wau Y	4 x5¼	25.6	L	PC	.....	Bus	Zen	G	Bos	Bos	B-L	D	B-L 35	U	4	Spi	Tim 6460	W	½	8.66	41.5	A	She D-343	Tut	Lav	Bim	Fir	4850
Noble B31	2900	160	36x4‡	36x7‡	Bud KTU	4 x5¼	25.6	L	PC	Pie	Chi	Str	V	Eis	Bos	Ful	D	Ful GU14	U	4	M-E	She 103	B	F	8.00	33.0	A	Own A	Tut	Ros	Roy	Fir	4250
Oshkosh AW	3080	130	36x6*	36x6*	Wis SU	4 x5	25.6	H	PC	Dup	Own	Str	V	A-L	A-L	B-L	D	B-L 35	U	4	Pet	Own A	B	F	8.00	33.0	A	Own AA	Tut	Ros	Roy	Fir	....
Oshkosh AAW	3180	165	36x6	36x6*	Wis SU	4 x5	25.6	H	PC	Dup	Own	Str	V	A-L	A-L	B-L	D	B-L 35	U	4	Pet	Own AA	B	F	8.00	33.0	A	Own AA	Tut	Ros	Roy	Fir	....
Patriot 35	....	144	36x4	36x7	Hin 400	4x 5¼	25.6	L	FP	Non	Own	Zen	V	Bos	.....	B-L	D	B-L 35	U	4	The	Tim 6462	W	½	7.25	38.8	A	Shu	Mar	Ros	Bim	Fir	4400
Penn	2300	144	34x5	38x7	Bud WU	3¾x5⅛	21.0	L	PC	Non	G&O	Zen	G	Bos	Bos	Ful	D	Ful-SU	A	3	Spl	She W1501	W	½	9.25	37.0	...	Tor AA3	Row	Ros	Gdy	Gdy	3975
Pennford	925	138	30x3½	34x5	Himico	3¾x4	22.5	L	SP	Non	Ford	Hol	G	Ford	Ford	Hin	D	Hin	A	3	U-P	She W1002	W	½	7.75	.....	...	Ford	Row	Ford	Hoo	Gdy	2800
Pierce Arrow XA	3300	150	36x4‡	36x5††	Own XA	4 x5½	25.6	T	FP	Own	Own	Str	P	Del	Del	Own	D	Own XA	A	4	Spi	Own XA	W	½	8.5	44.2	A	Own XA	S.P	Own	.....	Opt	6280
Rainier R28	3090	157	34x4‡	34x8‡	Con K4	4 1/8x5¼	27.2	L	FP	Pie	Bus	Zen	V	Eis	Del‡	B-L	D	B-L 35	A	4	Spi	She W-103	W	½	7.75	41.5	A	She D-370	S.P	Ros	Jon	.....	4900
Rainier R28	3190	175	34x4‡	34x8‡	Con K4	4 1/8x5¼	27.2	L	FP	Pie	Bus	Zen	V	Eis	Del‡	B-L	D	B-L 35	A	4	Spi	Sne W-103	W	½	7.75	41.5	A	She D-370	S.P	Ros	Jon	.....	5050
Reo 6	....	156	32x6	34x7	Own T6	3 1/16x5	24.3	D	SP	Non	Own	Sch	V	N-E	N-E	Own	D	Own	A	3	Own	Own	S	½	5.7	.....	A	Own	.....	Own	Bud	.....	3925
Rehberger A	....	162	36x4	36x7	Bud KTU	4 x5¼	25.6	L	PC	K.P	Bus	Zen	G	RBo	Bos‡	B-L	D	B-L 35	U	4	Spi	Tim 6462	W	½	7.75	41.5	A	Shu 510	Det	Gem	Van	Fir	5060
Republic 15	....	153	34x4*	34x7*	Con J4	3¾x5	22.5	L	FP	Pha	Own	Str	V	Bos	Bos	Ful	D	Ful	U	3	Spi	Eat	I	F	7.20	28.8	B	Eat	Mat	Jac	Van	Fir	4200
Republic 15W	....	153	34x4*	34x7*	Wau V	4 x5	25.6	L	...	Wau	Own	Str	V	Bcs	Bos	Ful	D	Ful	U	3	Spi	Eat	I	F	7.20	28.8	B	Eat	Mat	Jac	Van	Fir	4200
Ruggles 41	....	148	30x5*	34x7*	Her O	4 x5	25.6	L	PC	Non	Per	Zen	G	Bos	Rem‡	B-L	D	B-L 31	U	3	Spi	Wis 660	R	F	7.00	37.4	A	Shu 5410	Det	Jac	Nor	Fir	4250
Sandow JS	....	144	36x4	36x7	Her O	4 x5	25.6	L	PC	Non	Chi	Zen	...	Eis	Bos	Ful	D	Ful GU14	...	...	Spi	She W-103	I	D	8.66	.....	...	She 343	Own	Ros	.....	.....	4000
Schacht J	2600	158	34x4	34x7	Wis SU	4 x5	25.6	H	PC	Non	Own	Zen	V	Bos	Non	Ful	D	Ful GU7	U	4	Spi	Wis 660D	R	F	7.00	33.6	A	Shu 510	She	Ros	Van	Non	4900
Selden 33	....	146	34x4‡	34x6††	Con K-4	4 1/8x5¼	27.2	L	FP	Pha	Lon	Str	G	Eis	Bos	B-L	D	B-L 35	U	4	Spi	Tim 6462	W	½	7.25	41.5	A	Tim 1454	Per	Ros	Van	Fir	4400
Sterling DW10	....	142	36x4	36x6	Own FU	4 x5¾	25.6	L	PC	Wau	Own	Zen	G	Eis	.....	B-L	D	B-L	U	3	Spi	Tim 6410	W	½	6.5	34.8	A	Tim 1460	Mat	Ros	Hoo	.....	4680
Stewart 18	1890	160	34x4‡	34x6‡	Lyc C	4 x5	25.6	L	PC	Non	Own	Zen	G	Rem	Rem	Ful	D	Ful LTU-4	U	4	Spi	Cla B-501	B	F	6.28	25.1	B	Col	Det	Gem	Cla	Fir	3400
Stoughton D	....	140	36x4	36x7	Own	4 1/16x5¼	...	L	FP	Sim	Own	Zen	G	Eis	.....	B-L	...	B-L35	A	4	Spi	She W103	W	½	8.66	46.3	...	She D343	Own	Ros	Bim	Gdy	4600
Traffic 4000C	1595	142	34x31½‡	34x5‡	Con S4	4½x4¼	28.9	L	PC	Pie	Own	Zen	G	Bos	Bos	Ful	D	Ful GU-10	U	3	U-M	Cla 1D	I	D	7.25	34.8	A	Own	Det	Lav	Van	.....	3740
United 32	....	148	34x4	34x7	Her OX	4 x5	25.6	L	PC	Non	Per	Str	G	Bos	Non	B-L	D	B-L 31	U	3	Blo	Wis 40	R	½	6.00	24.5	A	Shu 510	Det	Lav	Van	Fir	3810
§United 35	....	148	34x5*	34x7‡	Her OX	4 x5	25.6	L	PC	Non	Per	Str	G	Bos	Non	B-L	D	B-L 31	U	3	Blo	Wis 51	R	½	7.75	30.7	A	Shu 310	Det	Lav	Van	Fir	3810
United 40	....	164	32x6	34x7	Wis Y6	3⅜x5	27.3	L	PC	Non	Per	Str	V	Bos	Bos	B-L	D	B-L 35	U	3	Blo	Wis 460	R	½	6.00	32.1	A	Shu 5550	Det	Lav	Van	Fir	4550
Us. NW24	2875	144°	30x41	30x61	Bud WTU	3¾x5⅛	22.5	L	PC	Non	Lon	Zen	V	Bos	Bos	Ful	D	Ful LTU5	U	3	Blo	She W-103	W	½	8.75	35.0	...	Shu 350	She	Lav	Sch	.....	4550
Victor 50	2100	142	34x4‡	34x7††	Her OX	4 x5	25.6	L	FP	Pie	Zen	G	Eis	.....	Ful	D	Ful GU12	U	4	U-M	Wis 66	R	½	7.0	33.6	A	Shu 5410	Det	Lav	Smi	.....	4500
Washusett K	....	154	.....	.....	Con K4	4 1/16x5¼	27.2	L	FP	Non	Zen	V	Bos	Bos	B-L	D	B-L 35	U	4	Har	Tim 6460	R	½	7.75	41.5	...	Tim 1520	.....	Ros	.....	Fir	4800
White 20	2950	168°	36x4‡	36x7‡	Own GK	3⅝x5½	22.5	L	PS	Non	Own	Zen	G	.....	.....	B-L	D	B-L	U	4	Spi	Own 20	W	½	7.53	32.45	A	Own 20	Own	Ros	.....	.....	4680
												Str							A	4	The	She			8.66	.....	A	She	.....	.....	.....	.....	....

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For full name and address of manufacturer and information regarding complete line see page 42

Key of abbreviations, page 46

Trade Name and Model	General: Chassis Price	General: Standard Wheelbase (inches)	General: Tire Size §§ Front (inches)	General: Tire Size §§ Rear (inches)	Engine: Make and Model	Engine: Bore and Stroke (inches)	Engine: N.A.C.C. Rated H.P.	Engine: Valve Arrangement	Engine: Oiling System	Engine: Governor (Make)	Engine: Radiator (Make)	Engine: Fuel System: Carburetor (Make)	Engine: Fuel System: Fuel Feed	Electrical System: Ignition System (Make)	Electrical System: Generator and Starter (Make)	Clutch: Make	Clutch: Type	Gearset: Make and Model	Gearset: Location	Gearset: No. of Forward Speeds	Universals (Make)	Rear Axle: Make and Model	Rear Axle: Final Drive	Rear Axle: Type	Gear Ratios: Total Reduction in High	Gear Ratios: Total Reduction in Low	Brakes, Location	Front Axle Make and Model	Springs (Make)	Steering Gear (Make)	Wheels (Make)	Rims (Make)	Chassis Weight (lbs.) (stripped)
2½ Ton—Con'd																																	
Sterling DW-12	....	142	36x4	36x7	Own FU	4 x5¾	25.6	L	PC	Wau	Own	Zen	V	Eis	.....	B-L	D	B-L	U	4	Spi	Tim	W	..	6.5	34.8	...	Tim 1460	Mat	Ros	Hoo	.....	5180
SterlingDW-14	....	156	36x4	36x8	Own FU	4 x5¾	25.6	L	...	Wau	Own	Zen	V	Eis	.....	B-L	D	B-L 35	U	4	Spi	Tim 6566	W	F.	7.2	38.5	...	Tim 1544B	Mat	Ros	Hoo	.....	5500
Stewart 7X	2895	156	34x4‡	34x8‡	Bud HTU	4½x5½	28.9	L	PC	Pie	Bus	Zen	V	Eis	Rem‡	Ful	D	Ful GU-5	U	4	Spi	Cla 2-D	W	D	9.00	43.2	B	Col 8503	Amc	Ros	Cla	Fir	4820
Super Truck 50	3150	156	36x4‡	36x8‡	Wis TAU	4 x6	25.6	L	PC	Sim	Chi	Zen	G	Bos	Ves†	Ful	D	Ful G	U	4	Spi	She W21	W	½	8.75	42.0	A	She D-370	She	Ros	Pru	.....	5200
Traffic	2700	142°	36x4	36x8	Con S4	4½x4½	28.9	L	PC	Pie	Own	Zen	G	Bos	Bos	Ful	D	Ful	U&A	8	U-M	Tim	W	F	8.25	....	A	Tor	Det	Ros	Bim	.....	5200
Twin City BW	2800	163½	36x5	36x5††	Own TW	4¼x6	28.9	H	PC	Own	Mod	Str	V	Bos	N-E‡	B&B	P	Ful G7	A	4	Spi	Cla 2D	I	D	8.00	38.4	...	Shu 550	Mat	Ros	Bim	.....	5625
Union FLW&FW	....	155	36x5	36x10	Wis TAU	4 x6	25.6	L	PC	Dup	G&O	Zen	G	Eis	L-N	Ful	D	Ful GU-14	U	4	U-P	Wal 25A	W	F	....	37.7	...	She D370	Mat	Jac	Pru	Gdy	5900
Union F	....	155	36x5	36x10	Wis TAU	4 x6	25.6	L	PC	Dup	G&O	Zen	G	Eis	L-N	Ful	D	Ful GU-14	U	4	U-P	Wis 88EF	W	....	....	....	...	She D370	Mat	Jac	Smi	Gdy	5900
§United 50	....	156	34x4*	34x8‡	Her OX	4 x5	25.6	L	PC	Non	Per	Str	G	Bos	.....	B-L	D	B-L 35	U	4	Blo	Wis 66	R	½	7.75	41.5	A	Shu 510	Det	Lav	Van	....	4120
Victor 70	2650	156	36x4‡	36x8‡	Her OX	4 x5	25.6	L	FP	Pie	Per	Zen	G	Eis	.....	Ful	D	Ful GU12	U&A	8	U-M	Wis 88E	R	F	8.66	200.	A	Shu 5550	Det	Lav	Smi	....	5800
Victor 60	2400	156	36x4*	36x8‡	Her OX	4 x5	25.6	L	FP	Pie	Per	Zen	G	Eis	.....	Ful	D	Ful GU12	U	4	U-M	Wis 88E	R	F	8.66	41.6	A	Shu 5550	Det	Lav	Smi	....	5400
Wachusett L	....	170	36x5	36x10	Con L-4	4½x5½	32.4	L	FP	Non	G&O	Zen	V	Bos	Bos	B-L	D	B-L 55	U	4	Har	Tim 6560	W	F	7.25	41.5	...	Tim 1542	Sav	Ros	Smi	Fir	5200
Ward LaFrance 2B	....	170	36x4	36x4†	Wau CU	4⅜x5¾	30.6	L	PC	Wau	Own	Str	G	Bos	A-L	B-L	D	B-L 51	A	4	Spi	Tim	R	½	7.53	37.75	B	Own	....	Own	....	....	5700
White 51	3750	170	36x5	36x6††	Own GR	4¼x5¾	28.9	L	PC	Own	Own	Zen	V	....	L-N‡	Own	D	Own	U	4	Spi	Own	R	½	7.53	37.75	B	Own	....	Own	....	....	5700
Wilcox CC	3000	135	3 x4	6x3½	Own CC	4¼x5	28.9	L	PC	Dup	G&O	Str	G	Bos	Wes‡	Own	D	Own O	A	4	Own	Wal 25A	R	½	8.60	42.3	B	Shu 550	She	Own	Cla	....	5000
Winther 44	3100	161	34x5	34x7	Wis SU	4 x5	25.6	H	FP	Non	Own	Str	V	Bos	Bos	Ful	D	Ful G7	U	4	Pet	Own	I	..	7.00	33.6	B	Tim	Mat	Lav	Own	....	4375
Witt-Will S	3100	146	36x4‡	36x8	Con K-4	4½x5¼	27.2	L	FP	Pie	Own	Zen	V	Eis	Bos	B-L	D	B-L 51	U	4	Spi	Tim 6560	W	F	8.25	40.0	A	Tim 1544	She	Ros	Arc	Non	5000
3 Ton																																	
§Acme 60L	....	156	36x4‡	36x10††	Con L-4	4½x5½	32.4	L	FP	Mon	G&O	Zen	V	Bos	Bos	B&B	P	Cot R	A	4	Blo	Tim 65660	W	F	8.50	42.0	A	Tim 1544	Det	Ros	Int	.....	5050
Armleder 60	....	152	36x5	36x10	Bud EBUI	4¼x5½	28.9	L	PC	Han	Own	Zen	V	Bos	Bos‡	B-L	D	B-L	U	4	Spi	Tim	W	F	9.25	49.5	A	Tim	She	Ros	Smi	Gdy	5800
Autocar H	....	114	34x6	36x10	Own H	4 x5½	25.6	L	SP	Pha	Own	Str	G	Bos	L-N*	Own	P	Own Y	A	4	Spi	Own H	R	F	7.72	46.3	A	Own H	Del	Ros	Hoo	.....	5500
Autocar K	....	138	34x6	36x10	Own H	4 x5½	25.6	L	SP	Pha	Own	Str	G	Bos	L-N*	Own	P	Own Y	A	4	Spi	Own H	R	F	7.72	46.3	A	Own H	Del	Ros	Hoo	.....	5600
Autocar HPDS	....	114	34x6‡	36x12‡	Own H	4 x5½	25.6	L	SP	Pha	Own	Str	G	Bos	L-N*	Own	P	Own Y	A	4	Spi	Own Y	R	F	8.72	63.6	A	Own H	Del	Ros	Hoo	.....	6000
Brockway K13	....	153	36x4	36x8††	Con K4	4⅛x5¼	27.2	L	FP	Pha	Bus	Zen	V	Eis	L-N	B-L	D	B-L 35	A	4	Spi	Tim 6566	W	F	7.75	....	A	Tim 1542	She	Ros	Day	Non	5260
Brockway K16	....	154⅝	36x4	36x8††	Con K4	4⅛x5¼	27.2	L	FP	Pha	Bus	Zen	V	Eis	L-N	B-L	D	B-L 55	A	4	Spi	Tim 6566	W	F	7.75	....	A	Tim 1542	She	Ros	Day	Non	5260
Brockway KR	....	156	36x4	36x8††	Con L4	4½x5½	32.4	L	FP	Pha	Bus	Zen	V	Eis	L-N	B-L	D	B-L 55	A	4	Spi	Tim 6566	W	F	7.75	....	A	Tim 1542	She	Ros	Day	Non	5760
Buck 64	....	163°	36x5‡	36x10‡	Con L-4	4½x5½	32.4	L	PC	Pie	Own	Zen	V	Bos	Bos	B-L	D	B-L 55	A	7	Spi	Tim 6566	W	F	9.25	87.8	A	Tim 1544	Mat	Ros	Smi	Fir	6100
§Clinton 65	3550	184	34x5‡	34x5†	Bud ETU	4¼x5½	28.9	L	PC	K.P.	Own	Zen	G	Bos*	Bos	B-L	D	B-L 55	A	4	M-E	Tim 6566	W	F	8.50	45.5	A	Tim 1544B	Per	Ros	StM	.....	5925
Clydesdale 6	....	163	36x5	36x5	Con L4	4½x5½	32.4	L	FP	Own	Own	Zen	V	Bos	Bos*	B-L	D	B-L 51	A	4	Spi	Tim 6566	W	F	9.25	49.4	A	Tim 1544B	Per	Ros	Smi	Non	5850
Clydesdale 6X	....	163	36x4	36x8	Con K4	4⅛x5¼	27.2	L	FP	Own	Own	Zen	V	Bos	Bos*	B-L	D	B-L 51	A	4	Spi	Tim 6566	W	F	9.25	49.4	A	Tim 1544B	Per	Ros	Smi	Non	5700
Concord JL	3600	170	36x6*	36x10	Bud EBU	4¼x5½	28.9	L	PC	Pie	Own	Zen	V	Eis	Opt	B-L	D	B-L 51	U	4	Spi	Tim 6566	W	F	9.25	49.4	A	Tim 1544B	.....	Ros	Arc	Fir	5500
Corbitt R	....	160	36x4‡	36x8‡	Con L-4	4½x5½	32.4	L	FP	Sim	McC	Str	V	Eis	Bos‡	B-L	D	B-L 51	U	4	Spi	She W-21	W	½	10.30	55.1	A	She 3FA10	She	Ros	Smi	.....	6160
Day-Elder J	....	156	36x4‡	36x8‡	Bud EBU	4¼x5½	28.9	L	PC	Mon	Bus	Zen	V	Eis	Bos‡	B-L	D	B-L 51	U	4	Spi	Tim 6566	W	F	9.25	49.5	A	Tim 1544	She	Gem	Van	Fir	6500
Defiance H2	....	160	36x4	36x8	Con K4	4⅛x5¼	27.2	L	PC	Mon	Chi	Zen	V	Bos	Bos	Ful	D	Ful GU12	U	4	Spi	Wis 88E	R	½	9.50	45.6	A	Tim	Det	Lav	StM	.....	5140
Defiance HL2	....	175	36x4	36x8	Con K4	4⅛x5¼	27.2	L	PC	Mon	Chi	Zen	V	Bos	Bos	Ful	D	Ful GU12	U	4	Spi	Wis 88E	R	½	9.50	45.6	A	Tim	Det	Lav	StM	.....	5340
Defiance H3	....	135	36x5	36x10	Con K4	4⅛x5¼	27.2	L	PC	Mon	Chi	Zen	V	Bos	Bos	Ful	D	Ful GU12	U	4	Spi	Wis 120FG	R	½	9.50	45.6	A	Tim	Det	Lav	Smi	.....	5200
Denby 35	....	155	36x4	36x8	Con K-4	4⅛x5¼	27.2	L	PC	.....	Lon	Zen	G	Eis	.....	Ful	D	Ful	A	4	U-P	Cla	I	D	8.15	45.3	...	Con	Det	Ros	Smi	.....	5090
Double Drive TT	4000	144	36x6‡	36x6††	Bud ETU	4¼x5½	28.9	L	PC	Pie	Lon	Zen	V	Spl	Opt	Det	D	Own D. T. P	A	4	Own	Own D. T. T.	W	½	8.50	39.5	B	Own FTT	Tut	Ros	Std	.....	6250
Duplex AC	....	165	34x5‡	36x8††	Bud EBUI	4¼x5½	28.9	L	PC	Opt	Mod	Str	V	Eis	Opt	B-L	D	B-L 50	U	4	Pet	She W21	W	F	7.75	45.4	A	She 370	Pen	Ros	Mo	Fir	5500
Fageol 340	4000	172	36x5	36x10†*	Wau CU	4⅜x5¾	30.6	L	PC	Wau	Own	Zen	V	Bos	Bos	B-L	D	B-L 51	U	4	Spi	Tim 6566	W	F	7.75	41.4	A	Tim 1544B	Mat	Ros	Van	.....	7000
Fageol 360	5250	172	36x6*	36x6††	HaS	4¼x5½	28.9	H	PC	H-S	Lon	Zen	V	Del	Del	B-L	D	Own B	A	7	Spi	Tim 6566	W	F	5.60	59.5	A	Tim 1544B	Mat	Ros	Bud	.....	6500
Federal UB6	....	190	32x6	32x6†*	Con 6B	3⅜x5	33.7	L	PC	Non	Mod	Zen	V	Eis	Rem	B&B	P	Det R400	...	4	Spi	Tim 6566	W	F	6.75	.....	A	Own	Mat	Gem	Smi	Fir	5400
Forschler E	....	144	36x4	36x8	Con C-4	4¼x5¼	27.2	L	PC	Dup	Own	Zen	V	Bos	Non	Ful	D	.....	....	4	Har	.....	W	½	.....	.....	.....	.....	Own	Ros	Smi	.....	5200
F.W.D. B	4200	124	36x6‡	36x6‡	Wis A	4¾x5½	36.1	T	PC	Pie	McC	Str	G	Eis	N-E‡	H-S	D	Cot DAF	A	3	Own	Own B	B	F	8.90	35.6	B	Own B	Tut	Ros	Sch	.....	6300
Gary Oil Field Four	3750	150	36x6*	40x8*	Bud YBU–I	4½x6	32.4	L	PC	McC	Chi	Str	V	Eis	.....	B-L	D	B-L	A	4	Spi	Tim	W	F	8.50	41.0	A	Tim	Mer	Ros	Day	.....	5680
Gary Oil Field Six	4250	160	36x6*	40x8*	Bud Bus 6	4 x5⅛	38.4	L	PC	McC	Chi	Str	V	Eis	.....	Ful	D	Ful	A	4	Blo	Tim 6566	W	F	8.50	41.0	A	Tim 1544	Mer	Ros	StM	.....	5850
Gotfredson 60	....	152½	36x5‡	36x10‡	Bud EBUI	4¼x5½	28.9	L	PC	Sim	McC	Zen	V	RBo	Rem	B-L	D	B-L 55	A	7	Spi	Tim 6570	W	F	9.25	27.8	B	Tim 1526	Det	Ros	Day	Non	6200
Gramm-Bernstein 30	....	150	36x5	36x10	Con L4	4½x5½	32.4	L	PC	Pie	Own	Str	G	Eis	A-L	Ful	D	Ful GU7	A	8	Own	She W-21	W	½	5.66	46.5	B	She 370	Per	Ros	Smi	Fir	6640
Gramm-Kincaid 648O	3750	152°	36x5‡	36x8‡	Her L	4½x5½	32.4	L	FP	Pie	Own	Zen	G	Bos	A-L	Ful	D	Ful H	A	8	Thei	Wis 88EF	R	½	5.50	100.5	B	Wis 30	Mat	Ros	Smi	Non	6560
Guilder H	3500	152	36x5	36x5††	Bud EBUI	4¼x5½	28.9	L	PC	Pie	G&O	Zen	G	Eis	Bos	B-L	D	B-L 51	U	4	M-E	Wis 88EJ	W	F	7.75	42.0	...	Shu 5550	Mer	Ros	Van	Non	5600
Hahn L	3750	149°	36x4	36x5††	Con L4	4½x5½	32.4	L	FP	Pha	Chi	Str	G	Bos	Del	B-L	D	.....	U	4	Spi	Tim 6566	W	..	8.5	.....	A	Tim 1542	Mer	Ros	Opt	Opt	5900
International 63	....	140	36x5‡	36x8‡	Own 63	4¼x5	28.9	H	SP	Own	Own	Own	G	RBo	Rem‡	Own	D	Own 63	U	4	Own	Own 63	I	D	9.00	53.1	B	Own 63	....	Own	Own	.....	5660
Kenworth K-8	3750	160	36x4‡	36x4††	Bud EBU	4¼x5½	28.9	L	PC	Non	Own	Zen	G	RBo	Rem	B&B	P	Cot RU	U	4	Spi	She W-21	W	½	7.75	46.8	A	She D-370	Lah	Ros	Smi	.....	6300
King Zeither 60	....	156°	36x5‡	36x10‡	Con K4	4⅛x5¼	27.2	L	FP	Pha	Chi	Str	V	Eis	Bos‡	B-L	D	B-L 51	A	4	Pic	Tim 6570	W	F	9.25	49.5	A	Tim 1544B	Mar	Ros	StM	.....	5400
Kleiber Spec	4100	163	36x5	36x5††	Con L4	4½x5½	32.4	L	FP	Non	R-T	Str	V	RBo	Bos	B-L	D	B-L 60	...	4	.....	Tim 6570 D			.....	.....	...	Tim 1544 B	Bet	Ros	Smi	.....	.....
Lange	....	156	36x4	36x10	Con 6B	3⅜x5	33.8	L	FP	Non	Own	Str	V	Apo	Non	B-L	A	B-L 55	U	4	Pet	Tim 6570 D	W	F	9.25	49.5	A	Tim 1544B	SP	Ros	Hoo	Opt	6450
§Maccar H1	....	175	36x4‡	36x5†	Wis UAU	4¼x6	28.9	L	PC	Pie	Own	Zen	V	Eis	Bos‡	B-L	D	B-L 51	U	4	Spi	Tim 6566	W	F	8.50	45.4	A	Tim 1544B	Row	Ros	Day	.....	6300
Maccar H-3	....	175	36x4‡	36x5†	Wis VAU.	4½x6	32.4	L	PC	Pie	Own	Zen	V	Eis	Bos‡	B-L	D	B-L 51	U	4	Spi	Tim 6566	W	F	8.50	45.4	A	Tim 1544B	Row	Ros	Day	.....	6300
Master 45	....	154°	36x5	36x10	Jackson	4¼	28.9	...	FP	.....	.....	Str	...	Spl	.....	Ful	...	Ful 60	A	4	Spi	Tim 6566	W	...	.....	.....	A	Tim 1544B	.....	Ros	.....	.....	.....
Moreland AC-Bus	4700	187	36x6*	36x6	Con L-4	4½x5½	32.4	L	FP	Non	Own	.....	V	Spl	Opt	B-L	D	B-L 51	U	4	Pet	Tim 6516	W	F	6.00	29 0	A	Tim 1550	U.S	Ros	Bud	.....	5660
National T	....	152	36x5‡	36x10‡	Wau CU	4⅜x5¾	30.6	L	PC	Wau	Bus	Zen	G	Bos	Non	H-S	D	B-L 51	A	4	Spi	Tim 6566	W	F	8.50	45.5	A	Tim 1544B	Mat	Ros	Van	.....	6200
National 50	4585	256	36x5	36x12	.....	4⅜x5¾	36.1	...	.....	.....	.....	Zen	G	Bos	Bos	H-S	D	B-L	...	7	.....	Tim	W	F	7.5	.....	A	Tim	.....	Ros	.....	.....	.....
National 51	4735	276	36x5	36x12	.....	4⅜x5¾	36.1	...	.....	.....	.....	Zen	G	Bos	Bos	H-S	D	B-L	...	7	.....	Tim	W	F	7.5	.....	A	Tim	.....	Ros	.....	.....	.....
Noble D-52	3500	162°	36x5	36x10	Bud ETU	4¼x5½	28.9	L	PC	McC	Chi	Str	V	Eis	Wes	Ful	D	Ful	A	8	Blo	She W21	W	½	8.75	96.2	A	She 370	Tut	Lav	Bim	Non	5800
Northway C3	3500	161°	36x5	36x10	Own C	4 x6	25.6	H	.....	.....	G&O	She	V	Bos	Bos	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ros	.....	.....	6060
Oshkosh H	4175	146	36x6	36x8	Her L	4½x5¾	32.4	L	FP	Pie	Own	Zen	V	Spl	.....	B-L	D	B-L 51	U	4	Blo	Own H	R	F	9.25	49.5	B	Own H	Tut	Han	StM	Gdy	6975
Oshkosh HH	4275	165	36x6	36x8	Her L	4½x5¾	32.4	L	FP	Pie	Own	Zen	V	Spl	.....	B-L	D	B-L 51	U	.	Blo	Own H	R	F	9.25	49.5	B	Own H	Tut	Han	StM	Gdy	7085
Patriot 55	....	156	36x5	36x10	Hin 200	4½x5½	32.4	L	FP	Non	Own	Zen	V	Bos	.....	B-L	D	B-L 51	A	4	The	Tim 6566	W	F	9.25	49.5	A	Shu	Mar	Ros	Bim	Fir	5500
Patriot 55X	....	156	36x5	36x10	Hin 200	4½x5½	32.4	L	FP	Non	Own	Zen	V	Bos	.....	B-L	D	B-L 55	A	7	The	Tim 6566	W	F	8.50	80.7	A	Shu	Mar	Ros	Bim	Fir	5600
Pierce-Arrow Xli	3550	150	36x5†	36x5†	Own Xli	4 x5¼	25.6	T	FP	Own	Own	Str	P	Del	Del	Own	D	Own XB	A	4	Spi	Own XB	W	½	9.25	48.1	A	Own XB	S.P	Own	Bet	Opt	6280
§Rehberger B-1	....	192	36x6*	36x6††	Bud YBU	4½x6	32.4	L	PC	.....	Bus	Zen	G	RBo	Bos	B-L	D	B-L 55	U	4	Spi	Tim 6566	W	F	6.75	36.1	A	Shu 5550B	Del	Gem	Bud	Fir	6510
§Rehberger B-2	....	192	36x6*	36x6††	Bud BUS	4 x5½	38.4	L	PC	.....	Bus	Zen	V	RBo	Bos	B-L	D	B-L 55	U	4	Spi	Tim 6566	W	F	6.75	36.1	A	Shu 5550B	Del	Gem	Bud	Fir	6470
Rehberger B	....	162	36x5	36x10	Bud YBU	4½x6	32.4	L	PC	K-P	Bus	Zen	G	RBo	Bos‡	B-L	D	B-L 51	U	4	Spi	Tim 6566	W	F	8.5	45.5	A	Tim 1544B	Del	Gem	Van	Fir	6460
Republic 25	....	165	36x5	36x10	Con K4	4⅛x5¼	27.2	L	FP	Pha	Own	Str	V	Bos	Bos	Ful	D	Ful	U	4	Spi	Eat	I	D	8.40	40.3	B	.....	Mat	Jac	Van	Fir	5400

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For full name and address of manufacturer and information regarding complete line see page 42

Key of abbreviations, page 46

Trade Name and Model	General				Engine								Electrical System		Clutch		Gearset			Universals (Make)	Rear Axle			Gear Ratios		Brakes, Location	Front Axle Make and Model	Springs (Make)	Steering Gear (Make)	Wheels (Make)	Rims (Make)	Chassis Weight (lbs.) (stripped)
	Chassis Price	Standard Wheelbase (inches)	Tire Size §§ Front (inches)	Tire Size §§ Rear (inches)	Make and Model	Bore and Stroke (inches)	N.A.C.C. Rated H.P.	Valve Arrangement	Oiling System	Governor (Make)	Radiator (Make)	Fuel System Carburetor (Make)	Fuel System Fuel Feed	Ignition System (Make)	Generator and Starter (Make)	Make	Type	Make and Model	Location	No. of Forward Speeds		Make and Model	Final Drive	Type	Total Reduction in High	Total Reduction in Low						
4 Ton—Con'd																															
Federal W3	4200	157	36x5	40x5†	Con L-4	4½x5½	32.4	L	FP	Pha	Own	Zen	V	Eis	Rem	B&B	P	Own WL	A	4	Spi	Tim 6666	W	F	10.3	61.0	A	Tim 1630B	Mat	Gem	Smi	Fir	7000
Garford 80	....	162	36x5	36x10	.....	.....	32.4	L	PC	.....	Own	.....	G	.....	.....	Own	D	Own 80	A	4	.....	.....	W	F	8.75	42.3	A	.....	.....	.....	.....	Non	7850
Gotfredson 80	....	160	36x6	40x7†	Bud YBUI	4½x6	32.4	L	PC	.....	McC	Zen	V	RBo	Non	B-L	D	B-L 55 Max	A	7	Spi	Tim 6666	W	F	10.3	55.3	B	Tim 1632B	Det	Gem	Day	Non	8400
Gramm-Bernstein 40	....	156	36x5	36x12	Con L4	4½x5½	32.4	L	PC	Pie	Own	Str	G	Eis	A-L	Ful	D	Ful G7	A	8	Own	She W31	W	½	8.75	46.9	B	She 4-FA-20	Per	Ros	Smi	Non	7980
Gramm-Kincaid 8480	4330	152°	36x5‡	36x5‡	Her L	4½x5½	32.4	L	FP	Pie	Own	Zen	G	Bos	A-L	Ful	D	Ful H	A	8	Thei	Wis 120BG	R	½	6.60	120.6	B	Wis 30	Mat	Ros	Smi	Non	8360
Gramm-K. P. (low bed)	4775	230°	36x5‡	36x5‡	Her L	4½x5½	32.4	L	FP	Pie	Own	Zen	G	A-L	A-L	Ful	D	Ful GU	U	4	Thei	Wis 125K	R	½	8.6	41.3	B	She D445	Mat	Ros	Smi	Non	8560
Guilder J	42'0	170	36x5	36x6†	Bud YTU	4½x6	32.4	L	PC	Pie	G&O	Zen	G	Eis	Non	B-L	D	B-L 55	A	4	M-E	Wis 1200	R	F	7.50	54.0	A	Shu 610	Mer	Ros	Van	Van	7500
Kenworth L	4500	170	36x5‡	40x5††	Bud YBU	4½x6	32.4	L	PC	Non	Own	Zen	V	RBo	Rem	B&B	P	Cot S	A	4	Spi	She W-32	W	½	8.75	53.3	A	She 4FA20	Lah	Ros	Smi	.....	8800
Kissel Heavy Duty	3675	168	36x5‡	36x12‡	Own 14000	4¼x5½	28.9	L	SP	Pie	McC	Str	V	Eis	Rem‡	W-G	D	W-G T-53	A	4	Spi	She W-31	W	½	11.7	58.6	A	She 4FA20	She	Ros	Smi	Non	7200
Maccar M2	....	176	36x5	36x6†	Wis VAU	4½x6	32.4	L	PC	Pie	Own	S-Z	V	Eis	Bos‡	B-L	D	B-L 55	U	4	Spi	Tim 6666	W	F	8.75	46.8	A	Tim 1632B	Row	Ros	Day	.....	7300
Master 55	.....	158°	36x5	40x12	Jackson	4¼	28.9	..	FP	.....	.....	Str	..	Spl	.....	Ful	...	Ful 60	..	...	.....	Tim	W	.....	.....	.....	A	Tim	.....	Ros	.....	.....	.....
Noble E-72	4150	164	36x5	36x12	Bud YTU	4½x6	32.4	L	PC	Pie	Chi	Str	V	Spl	Bos	Ful	D	W-G	A	8	Blo	She W30	W	½	8.75	93.6	A	She 4FA20	Tut	Lav	Bim	Non	7300
Pierce Arrow WC	4900	162	36x5‡	36x6†	Own WC	4½x6¾	32.4	T	FP	Own	Own	Str	P	Del	Del	Own	D	Own WC	A	4	Spi	Own WC	W	½	8.00	41.5	B	Own WC	S.P	Own	Bet	.....	8490
Rehberger C	....	174	36x6	36x12	Bud YBU	4½x6	32.4	L	PC	K-P	Bus	Zen	G	RBo	Bos ‡	B-L	D	B-L 55	A	4	Spi	Tim 6666	W	F	8.75	46.8	A	Tim 1632B	Del	Gem	Van	Fir	7940
Schacht	4400	168	36x5	40x6†	Wis VAU	4½x6	32.4	L	PC	Dup	Own	Zen	G	Bos	Non	B-L	D	Own	A	8	Spi	Own	W	F	11.6	55.4	B	Own	She	Own	StM	Non	7800
Selden 73	....	168	36x5‡	36x6†	Con B-5	4¾x6	36.1	L	FP	Pha	Lon	Str	G	Eis	Bos	B-L	D	B-L 55	A	4	Spi	Tim 6666	W	F	8.75	46.8	A	Tim 1630B	S.P	Gem	Std	.....	7720
Sterling DWIBX	....	156	36x5	36x10	Own CU	4⅜x5¾	30.6	L	PC	Wau	Own	Zen	V	Eis	.....	B-L	D	B-L	U	4	Spi	Tim	W	F	7.2	38.5	A	Tim 1544B	Mat	Ros	Hoo	.....	6100
Sterling EW20	....	162	36x5	40x10	Own DU	4½x6¼	32.4	L	PC	Wau	Own	Zen	V	Eis	.....	H-S	O	Own	A	4	Spi	Tim	W	F	8.7	51.8	...	Tim 1632B	Mat	Ros	Hoo	.....	7775
Union H	....	174	36x6	36x10	Wis VAU	4½x6	32.4	L	PC	Dup	G&O	Zen	G	Eis	L-N	Ful	D	Ful H	U	4	U-P	Wis 1200	R	F	10.2	49.2	B	Shu 650	Mat	Jac	Smi	Gdy	7700
Union HW	....	174	36x6	40x12	Wis VAU	4½x6	32.4	L	PC	Dup	G&O	Zen	G	Eis	L-N	Ful	D	Ful H	A	4	U-P	Wal 5A	R	F	10.5	63.0	A	Shu 650	Mat	Jac	Smi	Gdy	7750
U. S. 8	4425	168°	36x5	36x5†	Hin 200	4½x5½	32.4	L	PC	Hin	Lon	Str	V	Spl	Bos‡	B-L	D	B-L 55	A	4	Blo	She W-32	W	½	10.2	54.8	A	She 4FA20	She	Lav	Sch	Non	7100
Witt-Will A	4750	172	36x6	40x6†	Con B5	4¾x6	36.1	L	FC	Pie	Own	Zen	G	Eis	Bos	B-L	D	B-L 60	A	4	Spi	Tim 6760	W	F	10.2	53.3	A	Tim 1732B	She	Ros	Smi	Non	9500
4½ Ton																															
Republic 30	....	170	36x5	36x12	Con L4	4½x5½	32.4	L	FP	Pha	Own	Str	V	Bos	Bos	Ful	D	Ful	U	4	Spi	Eat	I	D	10.2	49.2	B	Wis	Mat	Lav	Van	Fir	6700
Republic 30W	....	170	36x5	36x12	Wau CU	4⅜x5¾	30.6	L	PC	Wau	Own	Str	V	Bos	Bos	Ful	D	Ful	U	4	Spi	Eat	I	D	10.2	49.2	B	Wis	Mat	Lav	Van	Fir	6700
5 Ton																															
Acme 90L	....	177	36x5‡	40x12††	Con B-7	5 x6	40.1	L	FP	Mon	G&O	Ray	V	Bos	Bos	B&B	P	Cot S	A	4	Blo	Tim 6666	W	F	8.75	45.5	A	Tim 1630B	Det	Ros	Bim	.....	8160
Amer. LaFrance V	5500	Opt	36x6	40x6†	Own 5R	4¾x6	36.1	L	PS	Own	Bus	Zen	V	Spl	Bos‡	Own	D	Own 5R	A	4	Own	Own 5R	W	F	10.0	54.5	B	Own 5R	Mer	.....	Day	Non	9600
Atterbury 24E	5500	174°	36x6	40x7†	Con B-7	5 x6	40.1	L	FP	Pie	Own	Zen	V	Bos	Bos	B-L	D	B-L 60 Max	A	7	Spi	Tim 6760	W	F	11.6	110.7	A	Tim 1732B	S.P	Gem	Std	Non	9500
Autocar L	....	156	34x6	36x14	Own Y	4¼x5½	28.9	L	SP	Pha	Own	Str	G	Bos	L-N‡	Own	P	Own B	A	4	Spi	Own Y	R	F	9.89	72.1	A	Own Y	Del	Ros	Hoo	Non	7400
Autocar M	...	120	34x6	36x14	Own Y	4¼x5½	28.9	L	SP	Pha	Own	Str	G	Bos	L-N‡	Own	P	Own B	A	4	Spi	Own Y	R	F	9.89	72.1	A	Own Y	Del	Ros	Hoo	Non	7200
Available L5	....	190	36x6	40x12	Wau EU	5 x6¼	40.0	L	FP	Wau	Chi	Str	G	Bos	Bos†	B-L	D	B-L 60	A	4	Spi	Tim 6760	W	F	11.3	60.6	A	Tim 1730	Tut	Ros	Smi	Non	9500
Biederman	....	180°	36x7	36x14	Con 6B-6	3¾x5	33.7	L	PC	Han	Own	Zen	G	Del	Del	B-L	D	B-L 60	U	7	Spi	Tim	W	F	11.5	60.6	A	Shu	Mat	Ros	Day	Non	9200
Brockway T	....	174	36x6	40x14	Con B-7	5 x6	52.5	L	FP	Pha	Bus	Zen	V	Eis	L-N	B-L	D	B-L 60	A	4	Spi	Tim 6760	W	F	10.33	.....	A	Tim 1732	She	Ros	Day	Non	9800
Brockway T15	....	176¾	36x6	40x14	Con B-7	5 x6	52.5	L	FP	Pha	Bus	Zen	V	Eis	L-N	B-L	D	B-L 60	A	7	Spi	Tim 6760	W	F	10.33	.....	A	Tim 1732	She	Ros	Day	Non	9800
Buck 84	....	183°	36x6‡	40x12‡	Con B5	4¾x6	36.1	L	PC	Pie	Own	Zen	V	Bos	Bos	B-L	D	B-L 60	A	7	Spi	Tim 6666	W	F	10.3	97.8	A	Tim 1632	Mat	Ros	Smi	Fir	7950
Chicago	....	183°	36x6	40x12	Her L	4½x5¾	32.4	L	PC	Pie	Chi	Zen	G	Apo	Non	B-L	D	B-L 60	A	4	Pet	Tim 6760W	F	..	11.6	.....	A	Tim 1732	Mat	Gem	Smi	Non	8500
Clinton 120L	5140	204	36x6‡	36x7†	Bud BTU	5 x6½	40.0	L	PC	K.P.	Own	Zen	G	Bos	Bos	B-L	D	B-L 60	A	4	M-E	Tim 6760	W	F	8.80	47.1	A	Tim 1732B	Per	Ros	StM	.....	9400
Clinton 120LM	5250	204	36x6	36x7†	Bud BTU	5 x6½	40.0	L	PC	K.P.	Own	Zen	G	Bos	Bos	B-L	D	B-L 60 Max	A	7	M-E	Tim 6760	W	F	8.80	83.6	A	Tim 1732B	Per	Ros	StM	.....	9400
Clydesdale 2	....	176	36x7	40x7	Con B-7	5 x6	40.0	L	FP	Own	Own	Zen	V	Bos	Bos*	B-L	D	B-L 60 Max	A	7	Spi	Tim 6760	W	F	11.6	110.8	A	Tim 1732B	Per	Ros	Smi	Non	9750
Coleman	....	144	42x9*	42x9*	Bud YBUI	4½x6	32.4	L	FP	.....	R-T	Str	V	Bos	Bos	Ful	D	Ful GU 14	U	4	.....	Wis 120J-FF	R	F	8.57	139	E	Wis 120J-F	Det	Ros	Day	Gdy	8750
Corbitt AA	....	178	36x6	40x6	Bud BTU	5 x6½	40.0	L	FP	Sim	McC	Str	V	Eis	Bos‡	B-L	D	B-L 60 Max	A	7	Spi	Tim 6760	W	F	11.6	110.8	A	Tim 1732B	She	Ros	Smi	Non	9410
Day-Elder L	....	170°	36x6	36x7†	Bud BTU	5 x6½	40.0	L	PC	Mon	Bus	Zen	V	Eis	Bos‡	B-L	D	B-L 60	A	4	Spi	Tim 6760	W	F	10.2	54.8	A	Tim 1732B	She	Gem	Van	Fir	10000
Denby 210	....	170	36x6	40x6†	Con B5	4¾x6	36.1	L	PC	.....	Lon	Zen	G	Eis	.....	Ful	D	Ful	A	4	U-P	Cla	I	D	12.5	62.7	...	Tim	Det	Ros	Smi	.....	8590
Diamond T 8	....	180	36x6	40x6	Hin B-2	4¾x6	36.1	L	FP	Hin	G&O	Str	V	Bos	Opt‡	B-L	D	B-L 60	A	4	Spi	Tim 6760	W	F	11.66	62.38	A	Tim 1732B	Mat	Gem	Int	Non	8750
Dixon	4490	160	36x5	36x12	Con L-4	4½x5½	32.4	L	FP	Pie	G&O	Zen	G	Bos	Non	Ful	D	Ful HUI	A	8	Spi	Tim 6666	W	F	Opt	Opt	A	Tim 1632B	S.P	Ros	Smi	Non	8100
Federal X-4	4750	163	36x6	40x6†	Con B-5	4¾x6	36.1	L	FP	Pha	Own	Zen	V	Eis	Rem†	B&B	P	W-G	A	4	Spi	Tim 6760	W	F	10.2	60.0	A	Tim 1630B	Mat	Gem	.....	Non	8700
Garford 68D	.....	167	36x6‡	40x12	.....	.....	.....	..	PC	.....	Own	.....	G	.....	.....	Own	D	.....	A	7	.....	.....	W	F	8.80	.....	A	.....	.....	.....	.....	Non	10000
Gary B50	4850	182	36x6	40x14	Bud BTU	5 x6½	40.0	L	PC	McC	Chi	Str	V	Eis	Non	Ful	D	Ful	A	4	Spi	Tim 6766	W	F	11.6	56.4	A	Tim 1732	Mar	Ros	Day	Non	9250
G.M.C. K-102A	....	160	36x6	40x14	Own	4½x6½	32.4	L	FP	Own	McC	Mar	G	Eis	Rem	Own	D	Own 102A	A	7	Own	Tim 6760W	W	F	10.0	86.2	...	Tim 1732B	Det	Own	Day	Non	8950
G.M.C. K-102B	....	184	36x6	40x14	Own	4½x6½	32.4	L	FP	Own	McC	Mer	G	Eis	Rem	Own	D	Own 102B	A	7	Own	Tim 6760W	W	F	10.0	86.2	...	Tim 1732B	Det	Own	Day	Non	9095
Gotfredson 100	....	169	36x6	40x8†	Bud BTU	5 x6½	40.0	L	PC	.....	McC	Zen	V	RBo	Rem	B-L	D	B-L 60 Max	A	7	Spi	Tim 6760	W	F	10.2	54.8	B	Tim 1732B	Det	Gem	Day	Non	12000
Gramm-Berns'n 50	....	168	36x6	40x6	Con B2	4¾x6	36.1	L	PC	Con	Own	Str	G	Eis	N-E	Own	D	Own 50	A	4	Own	She W-51	W	½	10.5	62.0	B	She 4FA20	Per	Ros	Smi	Non	9700
Guilder K5	4850	170	36x6	40x6†	Bud BTU	5 x6½	40.0	L	PC	Pie	G&O	Zen	G	Eis	Non	B-L	D	B-L 60	A	4	M-E	Wis 1600	R	F	9.00	.....	B	Shu 650	Mer	Ros	Van	.....	8800
Hahn M	4250	152°	36x5	36x6††	Con L4	4½x5½	32.4	L	FP	Pha	Chi	Str	G	Bos	Del	B-L	D	.....	A	4	Spi	Tim 6666	W	...	10.33	.....	A	Tim 1630	Mer	Ros	Opt	Opt	9200
Hahn M2	4750	174°	36x5	40x12	Con B5	4¾x6	36.1	L	FP	Pha	Chi	Str	G	Bos	Del	B-L	D	.....	A	7	Spi	Tim 6666	W	...	8.75	.....	A	Tim 1730	Mer	Ros	Opt	Opt	8300
International 103	....	160	36x5	40x14	Own	4¼x5	28.9	H	SP	Own	Own	Own	G	RBo	Rem‡	Own	D	Own 103	A	4	Own	Own 103	I	D	11.0	69.9	B	Own 103	.....	Own	Own	Non	7580
Kearns TF	.....	160°	36x6	36x6††	Wis VAU	4½x6	32.4	..	SP	.....	Own	Zen	..	.....	.....	Ful	D	Ful	A	4	.....	She	W	½	.....	.....	A	She	.....	Ros	.....	.....	8400
Kenworth RS	5500	178	36x6	40x14	Bud BTU	5 x6½	40.0	L	PC	Pie	Own	Zen	V	RBo	Rem	B-L	D	B-L 60 Max	A	7	Spi	She W-51	W	½	8.75	89.0	A	She 5FA-30	Lah	Ros	Smi	.....	9700
King Zeitler 40	.....	168°	36x7	40x14	Con B5	4¾x6	36.1	L	FP	Pha	Chi	Str	G	Eis	Bos‡	B-L	D	B-L 60	A	4	Spi	Tim 6760	W	F	11.6	62.3	A	Tim 1732 B	Mar	Gem	StM	Non	8600
Kissel Goliath	4385	168	36x6	40x14	Bud BTU	5 x6½	40.0	L	PC	Pie	McC	Str	V	Eis	.....	B-L	P	W-G	A	.	Spi	She W32	W	½	11.75	58.6	...	She 3FA20	Mat	Ros	Smi	.....	8500
Kleiber	5300	185	36x6‡	40x14‡	Con B-5	4¾x6	36.1	L	FP	Non	R-T	Str	V	RBo	Non	B-L	D	B-L 60	A	4	Spi	Tim 6760	W	F	10.3	54.8	A	Tim 1730	Bet	Ros	Smi	.....	10400
LeMoon G5	....	Opt	36x6	40x6	Con B-5	4¾x6	36.1	L	FP	Con	Chi	Str	G	Bos	Bos‡	B-L	D	B-L 60 Max	A	4	Own	Tim 6766	W	F	11.6	.....	A	Tim 1730	Tut	Ros	StM	Non	8000
Luedinghaus	....	160°	36x6‡	40x6‡	Wau EU	5 x6¼	40.0	L	PC	Non	Own	Zen	G	Spl	Opt‡	B-L	D	B-L 60	A	4	Spi	Tim	W	F	11.6	.....	A	.....	.....	Ros	.....	.....	9500
Maccar G1	....	186	36x6	40x6†	Wis RBU	5 x6	40.0	L	PC	Pie	Own	S-Z	V	Eis	Bos‡	B-L	D	B-L 60	A	4	Spi	Tim 6760	W	F	10.2	54.8	A	Tim 1732B	Row	Ros	Day	.....	8975
Mack AC	....	156°	36x6	40x6†	Own AC	5 x6	40.0	L	PS	Own	Own	Str	G	Spl	N-E‡	Own	P	Own AC	J	4	Spi	Own AC	C	D	*8.31	53.3*	D	Own AC	Mer	Own	.....	Non	.....
Master 61	....	158	36x5	40x12	Bud YBUI	4½x6	32.4	L	PC	Pie	Chi	Zen	V	Eis	Non	Ful	D	Ful	A	4	Spi	Tim 6760	W	F	Opt	Opt	A	Tim 1630	Det	Ros	Smi	Non	8200
Moreland RX	5000	192	36x6	40x7	Con B-5	4¾x6	36.1	L	FP	Con	Own	.....	V	Spl	A-L‡	Own	D	Own 23H	A	5	Pet	Tim 6666	W	F	8.75	52.6	A	Tim 1632B	U.S	Ros	Smi	Non	8180
Northway C5	4500	160°	36x6]	40x12	Own C	4 x6	25.6	H	PC	.....	G&O	She	V	Bos	Bos	.....	.....	.....	.....	.....	.....	.....	R	.....	.....	.....	.....	.....	.....	Ros	Smi	.....	7260

Ogden G	....	175	36x6	40x12	Con B-5	4¾x6	36.1	L	FP	Con	Chi	Zen	G	Eis	Ves	B-L	D	B-L 60	A	4	M-E	Tim 6766	I	F	10.3	.....	A	Tim 1540B	Tut	Ros	Sm	Non	8600
Oshkosh F	5400	146	36x8‡	36x12	Wau	5 x6¼	40.0	L	PC	Wau	Own	Zen	G	Spl	Non	Ful	D	Ful	U	4	Blo	Own	B	F	7.90	47.4	A	Own	Tut	Han	Cle	.....	8350
Pierce-Arrow RD	5100	162	36x6‡	36x7†	Own RD	4½x6¾	32.4	T	FP	Own	Own	Str	P	Del	Del	Own	D	Own RD	A	4	Spi	Own RD	W	F	7.8	40.4	B	Own RD	S.P	Own	Bet	Bet	8750
Rehberger D	....	186	36x6	40x14	Bud BTU	5 x6¼	40.0	L	PC	K-P	Bus	Zen	G	RBo	Bos‡	B-L	D	B-L 60	A	4	Spi	Tim 6760	W	F	10.25	54.8	A	Tim 1732B	Del	Gem	Van	Fir	10010

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For full name and address of manufacturer and information regarding complete line see page 42

Key of abbreviations, page 46

Trade Name and Model	General				Engine								Electrical System		Clutch		Gearset			Universals (Make)	Rear Axle			Gear Ratios		Brakes, Location	Front Axle Make and Model	Springs (Make)	Steering Gear (Make)	Wheels (Make)	Rims (Make)	Chassis Weight (lbs.) (stripped)
	Chassis Price	Standard Wheelbase (inches)	Tire Size §§ Front (inches)	Tire Size §§ Rear (inches)	Make and Model	Bore and Stroke (inches)	N.A.C.C. Rated H.P.	Valve Arrangement	Oiling System	Governor (Make)	Radiator (Make)	Fuel System: Carburetor (Make)	Fuel System: Fuel Feed	Ignition System (Make)	Generator and Starter (Make)	Make	Type	Make and Model	Location	No. of Forward Speeds		Make and Model	Final Drive	Type	Total Reduction in High	Total Reduction in Low							
Gasoline Tractor-Trucks—Con'd																																
Kelly-Springfield K-76	3600	124	36x5	36x10	Con L5	4¼x5½	28.9	L	FP	Pie	Own	Zen	G	Eis	Opt	B&B	P	B-L 55	A	4	Pet	Own K76	W	½	11.6	62.0	A	Own K76	Mat	Ros	StM	Non	6400
Kelly-Springfield K-41	4400	126	36x5	36x12	Own K-41	4½x6½	32.4	T	PC	Pie	Lon	Zen	G	Eis	Opt	B&B	P	B-L 60	A	4	Pet	Cla 3H	I	D	11.6	62.0	D	Own K41	Per	Gem	Cla	Non	7740
Kelly-Springfield K-42	3900	126	36x5	40x5	Own K-42	4½x6½	32.4	T	PC	Pie	Lon	Zen	G	Eis	Opt	B&B	P	B-L 60	A	4	Pet	Std 607-5	W	½	10.2	54.8	A	Own K-42	Per	Gem	Smi	Non	8100
Kelly-Springfield K-61	5000	126	36x6	36x7†	Own K-61	4½x6½	32.4	T	PC	Pie	Lon	Zen	G	Eis	Opt	B&B	P	B-L 60	A	4	Pet	Cla 5H	I	D	11.6	62.0	D	Own K-61	Per	Gem	Cla	Non	9025
Kelly-Spr'gfi'ldK-100	5000	143	36x6	40x14	Own	4½x6½	32.4	T	PC	Pie	Lon	Zen	G	Eis	Opt	B&B	P	B-L60 Max	A	7	Pet	Own	C	D	13.41	127.0	A	Own	Per	Gem	Smi	Non	9400
Mack AB 5-Ton	....	122½	36x4	36x4	Own AB	4¼x5	28.9	L	PS	Own	Own	Str	G	Spl	N-E‡	Own	D	Own AB	U	4	Spi	Own AB	C	D	10.5*	51.1*	B	Own AB	Mer	Own	.....	.....	....
Mack AC 7-Ton	....	128	34x5	36x5†	Own AC	5 x6	40.0	L	PS	Own	Own	Str	G	Spl	N-E‡	Own	P	Own AC	J	4	Spi	Own AC	C	D	9.06*	58.0*	D	Own AC	Mer	Own	.....	.....	....
Mack AC 10-Ton	....	128	34x6	36x6†	Own AC	5 x6	40.0	L	PS	Own	Own	Str	G	Spl	N-E‡	Own	P	Own AC	J	4	Spi	Own AC	C	D	9.69*	62.2*	D	Own AC	Mer	Own	.....	.....	....
Mack AC 13-Ton	....	128	34x6	36x6†	Own AC	5 x6	40.0	L	PS	Own	Own	Str	G	Spl	N-E‡	Own	P	Own AC	J	4	Spi	Own AC	C	D	10.5*	67.4*	D	Own AC	Mer	Own	.....	.....	....
Mack AC 15-Ton	....	128	34x7	36x7†	Own AC	5 x6	40.0	L	PS	Own	Own	Str	G	Spl	N-E‡	Own	P	Own AC	J	4	Spi	Own AC	C	D	11.5*	73.5*	D	Own AC	Mer	Own	.....	.....	....
Pierce-Arrow XB	3500	118	36x5	36x5	OwnXB	4 x5½	25.6	T	FP	Own	Own	Str	P	Del	Del	Own	D	Own XB	A	4	Spi	Own XB	W	½	9.25	50.2	A	Own	S.P	Own	Own	Non	6280
Pierce-Arrow RD	4700	118	36x6	36x6	Own RD	4½x6¾	32.4	T	FP	Own	Own	Str	P	Del	Del	Own	D	Own RD	A	4	Spi	Own RD	W	F	7.8	41.5	B	Own	S.P	Own	Own	Non	8490
Pierce-Arrow RF	5200	118	36x6	36x6	Own RF	4½x6¾	32.4	T	FP	Own	Own	Str	P	Del	Del	Own	D	Own RF	A	4	Spi	Own RF	W	F	10.0	51.9	B	Own	S.P	Own	Own	Non	9540
Saurer	6000	Opt	40x6‡	40x7††	Own	4¼ x7½	29.3	L	PS	Own	Own	Own	G	Sci	Opt	Own	K	Own	U	4	Own	Own	B	F	7.87	50 0	B	Own	Own	Own	Own	.....	7500
Schacht 5 Ton	3600	129½	36x4	36x8	Wis UAU	4¼x6	28.9	L	PC	Dup	Own	Zen	G	Bos	Non	B-L	D	Own 5	A	8	Spi	.....	R	F	8.5	40.4	B	Own	She	Own	.....	Non	6400
Schacht 7 Ton	4000	129½	36x5	36x10	Wis VAU	4½x6	32.4	L	PC	Dup	Own	Zen	G	Bos	Non	B-L	D	Own 7	A	8	Spi	.....	R	F	10.4	49.4	B	Own	She	Own	.....	Non	7500
Schacht 10 Ton	4400	131½	36x6	40x12	Wis VAU	4½x6	32.4	L	PC	Dup	Own	Zen	G	Bos	Non	B-L	D	Own 10	A	8	Spi	.....	W	F	14.0	66.5	B	Own	She	Own	.....	Non	8200
Schacht 13 Ton	4600	131½	36x6	40x12	Wis VAU	4½x6	32.4	L	PC	Dup	Own	Zen	G	Bos	Non	B-L	D	Own 13	A	8	Spi	.....	W	F	14.0	66.5	B	Own	She	Own	.....	Non	8400
Schacht 15 Ton	5100	131½	36x7	40x14	Wis RBU	5 x6	40.0	L	PC	Dup	Own	Zen	G	Bos	Non	B-L	D	Own 15	A	8	Spi	.....	W	F	14.0	66.5	B	Own	She	Own	.....	Non	9000
Service 61	....	127⅛	36x4	36x8	Bud EBUI	4¼x5½	28.9	L	PC	Non	.....	Str	V	Eis	Rem	B&B	P	B-L51	A	4	Spi	Tim 6566	W	F	7.75	41.5	A	Tim 1544B	She	Ros	Int	.....	5785
Service 81	....	131⅞	36x5	36x10	Bud YBUI	4½x6	32.4	L	PC	Non	.....	Str	V	Eis	Rem	B&B	P	B-L60	A	4	Spi	Tim 6666	W	F	7.8	41.7	A	Tim 1632B	She	Ros	Int	.....	7900
Service 103	....	131⅞	36x6	40x12	Bud YBUI	4½x6	32.4	L	PC	Non	.....	Str	V	Eis	Rem	B&B	P	B-L60	A	7	Spi	Tim 6760	W	F	10.25	97.3	A	Tim 1732B	She	Ros	Int	.....	9150
Sterling DWS-10T	....	130	36x4	36x8	Own CU	4⅜x5¾	30.6	L	PC	Wau	Own	Zen	V	Eis	.....	B-L	D	B-L 50	U	4	Spi	Tim	W	F	8.5	45.5	A	Tim 1544B	Mat	Ros	Hoo	.....	4680
Sterling EW-15T	....	148	36x5	40x10	Own DU	4½x6¼	32.4	L	PC	Wau	Own	Zen	V	Eis	.....	H-S	O	Own	A	4	Spi	Tim	W	F	10.3	61.0	A	Tim 1632B	Mat	Ros	Hoo	.....	7775
Sterling EW-20T	....	148	36x6	40x12	Own DU	4½x6¼	32.4	L	PC	Wau	Own	Zen	V	Eis	.....	H-S	O	B-L	A	4	Spi	Tim	W	F	10.2	61.0	A	Tim 1632B	Mat	Ros	Hoo	.....	8675
Sterling EWS-24T	....	148	36x6	40x12	Own EU	5 x6¼	40.0	L	PC	Wau	Own	Zen	V	Eis	.....	H-S	O	B-L	A	4	Spi	Tim	W	F	10.2	61.0	A	Tim 1732B	Mat	Ros	Hoo	.....	9175
Sterling EC-20T	....	148	36x6	40x12	Own DU	4½x6¼	32.4	L	PC	Wau	Own	Zen	V	Eis	.....	H-S	O	Own	A	6	B.G	Own	C	D	8.7	52.2	A	Tim 1632B	Mat	Ros	Hoo	.....	8100
Sterling ECS-24T	....	148	36x6	40x12	Own EU	5 x6¼	40.0	L	PC	Wau	Own	Zen	V	Eis	.....	H-S	O	Own	A	6	B.G	Own	C	D	8.7	52.2	A	Tim 1632B	Mat	Ros	Hoo	.....	8400
Sterling EC-50T	....	148	36x7	40x14	Own GU	5⅜x6¼	46.0	L	PC	Wau	Own	Zen	V	Eis	.....	H-S	O	Own	A	6	B.G	Own	C	D	9.8	59.5	A	Tim 1732B	Mat	Ros	Smi	....	10100
Walter FL 7 Ton	....	Opt	40x6	40x8	Own FY	4 x5¾	25.6	L	PC	Own	Own	Str	V	Wes	N-E	Own	D	Own FE	U	5	Own	Own FE	W	F	8.50	85.0	A	Own FE	.....	Ros	Day	Non	7700
Walter F 10 Ton	....	.....	40x7	40x8	Own DU	4½x6¼	32.4	L	PC	Own	Own	Zen	V	Wes	N-E	M-E	P	Own F	U	5	Own	Own F	W	F	8.50	85.0	A	Own F	.....	Ros	Day	Non	8500
Walter FR 15 Ton	....	Opt	40x8	40x7	Own DY	4½x6¾	32.4	L	PC	Own	Own	Zen	V	Wes	N-E	Own	D	Own FR	U	5	Own	Own FR	W	F	8.50	85.0	A	Own FR	.....	Ros	Day	Non	9200

Manufacturers and Models Included in the Specification Tables

List Includes Manufacturers of Buses and Electric Trucks

Trade Name	Capacity	Name	Address
Ace	2½-Bus	American Motor Truck Co.	Newark, Ohio
Acme	1, 1½, 2, 3, 5, 6¼-Bus	Acme Motor Truck Co.	Cadillac, Mich.
Acorn	2½, 4	Acorn Motor Truck Co.	Chicago, Ill.
American-La France	2½, 3½, 5, 6, 7-T. T.	American-La France Fire Engine Co.	Elmira, N. Y.
Armleder	1½, 2½, 3, 4 T. T.	O. Armleder Motor Truck Co.	Cincinnati, Ohio
Atterbury	1½, 2½, 3½, 5	Atterbury Motor Car Co.	Buffalo, N. Y.
Autocar	1, 1¼, 1½, 2, 2½, 3, 5, T. T.	Autocar Co.	Ardmore, Pa.
Available	1, 1½, 2, 2½, 3½ 4, 5	Available Truck Co.	Chicago, Ill.
Bethlehem	1, 2, 2½, 3½	Bethlehem Motor Corp. of N. Y.	Allentown, Pa.
Betz	1, 2½,	Betz Motor Truck Co.	Hammond, Ind.
Biederman	1, 1¼, 1½, 2½, 3½, 5	Biederman Motors Co.	Cincinnati, Ohio
Brinton	1½, 2½	Brinton Motor Truck Co.	Philadelphia, Pa.
Brockway	1¼, 2, 3, 4, 5-Bus	Brockway Motor Truck Corp.	Cortland, N. Y.
Buck	1½, 2, 2½, 3, 4, 5, 7½	The Buck Motor Truck Co.	Bellevue, Ohio
C. T. Elec.	½, ¾, 1, 2, 3, 3½, 5	Commercial Truck Co.	Philadelphia, Pa.
Casco	1, 2	Casco Motors, Inc.	Sanford, Me.
Chevrolet	½, 1	Chevrolet Motor Co.	Detroit, Mich.
Chicago	1, 1½, 2½, 3½, 5	Chicago Motor Truck, Inc.	Chicago, Ill.
Clinton	1¼, 2, 3, 4, 5 to 7-Bus	Clinton Motors Corp.	Reading, Pa.
Coleman	5	Coleman Motors Corp.	Littleton, Colo.
Clydesdale	1, 1¼, 1½, 2, 2½, 3, 3½, 5	Clydesdale Motor Truck Co.	Clyde, Ohio.
Commerce	1, 1½, 2, 2½-Bus	Commerce Motor Truck Co.	Ypsilanti, Mich.
Concord	1½, 2, 2½, 3-Bus	Abbott-Downing Truck & Body Company	Concord, N. H.
Corbitt	1¼, 2, 2½, 3, 4, 5	Corbitt Motor Truck Co.	Henderson, N. C.
Dart	1½, 2½	Cawart Dart Co.	Waterloo, Ia.
Day-Elder	1½, 2, 2½, 3, 4, 5, Bus.	Day-Elder Motors Corp.	Newark, N. J.
Defiance	1¼, 1½, 2, 3	Century Motor Truck Co.	Defiance, Ohio
Denby	1, 1½, 2, 2½, 3, 4, 5-Bus	Denby Motor Truck Corp.	Detroit, Mich.

Trade Name	Capacity	Name	Address
Nash	1, 2	Nash Motors Co.	Kenosha, Wis.
National	2½, 3½, 5	National Steel Car Corp., Ltd.	Hamilton, Ont.
Nelson	1½, 2, 2½, 3, 4, 5	Nelson Motor Truck Co.	Detroit, Mich.
Nicholas-Beazley	1½, 2, 2½, 3, 4, 5	Nicholas-Beazley Airplane Co.	Marion, Ind.
Oldsmobile	½, 1	Oldsmobile Motor Co.	Detroit, Mich.
Packard	1½, 2, 3, 5	Packard Motor Car Co.	Detroit, Mich.
Paige	1½, 2, 3, 5	Paige-Detroit Motor Car Co.	Detroit, Mich.
Pierce-Arrow	1½, 2, 3, 5	Pierce-Arrow Motor Car Co.	Buffalo, N. Y.
Pierce-Arrow	1½, 2, 3, 5	Pierce-Arrow Motor Car Co.	Buffalo, N. Y.
Reo	1½, 2, 3, 4, 5	Reo Motor Car Co.	Lansing, Mich.
Republic	1½, 2, 3, 4, 5	Republic Motor Truck Co.	Alma, Mich.
Rockne	½, 1	Rockne Motor Co.	South Bend, Ind.
Saurer	6	Saurer Motor Co.	Long Island City, N. Y.
Schacht	1½, 2, 3, 5	Schacht Motor Truck Co.	Ft. Wayne, Ind.
Service	1½, 2, 3, 4, 5	Service Motor Truck Co.	Wabash, Ind.
Sterling	1½, 2, 3, 4, 5	Sterling Motor Truck Co.	Milwaukee, Wis.
Stewart	½, 1	Stewart Motor Corp.	Buffalo, N. Y.
Studebaker	1½, 2, 3, 4, 5	Studebaker Corp. of America	South Bend, Ind.
Sumner	1½, 2, 3, 4, 5	Sumner Iron Works	Everett, Wash.
Thomas	1½, 2, 3, 5	Thomas Motor Co.	Jackson, Mich.
Velie	1½, 2, 3, 4, 5	Velie Motors Corp.	Moline, Ill.
Walker	1½, 2, 3, 4, 5	Walker Vehicle Co.	Chicago, Ill.
Walter	1½, 2, 3, 4, 5	Walter Motor Truck Co.	Long Island City, N. Y.
Wayne	1½, 2, 3, 4, 5	Wayne Works	Richmond, Ind.
White	1½, 2, 3, 4, 5	White Motor Co.	Cleveland, Ohio
Willys-Knight	½, 1	Willys-Overland, Inc.	Toledo, Ohio
Yellow Cab	1½, 2, 3, 4, 5	Yellow Cab Manufacturing Co.	Chicago, Ill.
Yellow Coach	1½, 2, 3, 4, 5	Yellow Coach Manufacturing Co.	Chicago, Ill.
Zenith	1½, 2, 3, 4, 5	Zenith Motor Truck Co.	Duluth, Minn.

Trade Name	Capacity	Name	Address
Brinton	1½, 2½	Brinton Motor Truck Co.	Philadelphia, Pa.
Brockway	1¼, 2, 3, 4, 5-Bus	Brockway Motor Truck Corp.	Cortland, N. Y.
Defiance	1¼, 1½, 2, 3	Century Motor Truck Co.	Defiance, Ohio
Denby	1, 1½, 2, 2½, 3, 4, 5-Bus	Denby Motor Truck Corp.	Detroit, Mich.
Diamond T	1, 1¼, 1½, 2½, 3½, 5	Diamond T Motor Car Co.	Chicago, Ill.
Dixon	1½, 2, 2½, 3½, 5	Dixon Motor Truck Co.	Altoona, Pa.
Dodge Brothers	¾	Dodge Brothers, Inc.	Detroit, Mich.
Dorris	1, 2½, 4-Bus	Dorris Motors, Inc.	St. Louis, Mo.
Double Drive	3	Double Drive Truck Co.	Benton Harbor, Mich.
Duplex	1, 1½, 2, 3, 3½-Bus	Duplex Truck Co.	Lansing, Mich.
Eagle	1¼, 2½-3, 3½-5	Eagle Motor Truck Corp.	St. Louis, Mo.
F. W. D.	3	Four-Wheel Drive Auto Co.	Clintonville, Wis.
Fageol	1½, 2, 3, 4, 6-Bus	Fageol Motors Co.	Oakland, Cal.
Federal	1, 1¼, 1½, 2, 2½, 3, 4, 5, 7-Bus, T. T.	Federal Motor Truck Co.	Detroit, Mich.
Fifth Avenue	Bus	Fifth Avenue Coach Co.	New York City.
Fisher Fast Freight	1½	Standard Motor Truck Co.	Detroit, Mich.
Flint Road King	1½	Flint Motor Co.	Flint, Mich.
Ford	1	Ford Motor Co.	Highland Park, Mich.
Front Drive	1½	Double Drive Truck Co.	Benton Harbor, Mich.
G. M. C	1, 1½, 2½, 3½, 5-T. T.	General Motors Truck Co.	Pontiac, Mich.
Garford	1, 1½, 2½, 4, 5, 7½ T. T. Bus	Garford Motor Truck Co.	Lima, Ohio
Gary	1, 2½, 3, 3½, 5-Bus	Gary Motor Corp.	Gary, Ind.
Gotfredson	1, 1½, 2, 2½, 3, 4, 5-Bus	Gotfredson Truck Corp.	Detroit, Mich. & Walkerville, Ont.
Graham Bros.	1, 1½-Bus	Graham Brothers	Detroit, Mich.
Gramm-Bernstein	1, 1¼, 1½, 2½, 3, 4, 5	Gramm-Bernstein Motor Truck Co.	Lima, Ohio
Gramm & Kincaid	1, 1¼, 1½, 2, 2½, 3, 4 Bus	Gramm & Kincaid Motors, Inc.	Lima, Ohio
Grass Premier	1, 1½, 2, 2½, 3½ Bus	Grass Premier Truck Co.	Sauk City, Wis.
Guilder	1¼, 1½, 2, 3, 4, 5, 6-Bus	Guilder Engineering Co.	Poughkeepsie, N. Y.
Hahn	1¼, 1½, 2, 2½, 3, 5 Bus	Hahn Motor Truck Co.	Hamburg, Pa.
Harvey	2½, 3½, Bus T. T.	Harvey Motor Truck Co.	Harvey, Ill.
Hug	1½, 2, 2½	Hug Company	Highland, Ill.
Indiana	1½, 2½, 3½	Indiana Truck Corp.	Marion, Ind.
International	1, 1½, 2, 3, 5 T. T. Bus	International Harvester Co. of America	Chicago, Ill.
Kearns	1½, 2, 2½, 3½, 5	Kearns Dughie Motors Co.	Lewistown, Pa.
Kelland (Elec.)	½, ¾, 1	Kelland Motor Car Co.	Newark, N. J.
Kelly-Springfield	1½, 2½, 3½-5-7	Kelly-Springfield Motor Truck Co.	Springfield, Ohio
Kenworth	1, 1½, 2, 3, 4, 5	Kenworth Motor Truck Corp.	Seattle, Wash.
King Zeitler	1, 1½, 2, 2½, 3, 3½, 5	King Zeitler Co.	Chicago, Ill.
Kissel	1, 1½, 4, 5 Bus	Kissel Motor Car Co.	Hartford, Wis.
Kleiber	1, 1¼, 1½, 2½, 3, 3½, 5	Kleiber Motor Truck Co.	San Francisco, Cal.
Lange	1½, 2½, 3, 3¼	Lange Motor Truck Co.	Pittsburgh, Pa.
Lansden (Elec.)	¾, 1, 2, 3½, 5, 6	Lansden Company	Danbury, Conn.
Larrabee-Deyo	¾, 1¼, 1½, 2¼, 2½, 3½-Bus	Larrabee-Deyo Motor Truck Co., Inc.	Binghamton, N. Y.
Lehigh	2	The Lehigh Co.	Allentown, Pa.
LeMoon	1, 1½, 2, 2½, 3½, 5	Nelson Le-Moon Truck Co.	Chicago, Ill.
Luedinghaus	1, 1½, 2½, 3½, 5	Luedinghaus-Espenschied Wagon Co.	St. Louis, Mo.
Maccar	1¼, 2, 3, 4, 5	Maccar Truck Co.	Scranton, Pa.
Mack	1½, 2, 2½, 3½, 5, 6½, 7½-Bus T. T.	International Motor Co.	New York, N. Y.
Master	1, 1¼, 1½, 2½, 3, 3½, 4, 5, 5½-Bus	Master Motor Truck Mfg. Co.	Chicago, Ill.
Menominee	1, 1¼, 1½, 2½, Bus	Menominee Motor Truck Co.	Clintonville, Wis.
Moreland	1, 1½, 2, 2½, 3, 3½, 5	Moreland Motor Truck Co.	Burbank, Cal.
Nash	1, 2	Nash Motors Co.	Kenosha, Wis.
National	2, 3, 3½	National Steel Car Corp., Ltd.	Hamilton, Ont., Canada
Noble	1, 1½, 2, 2½, 3, 3½, 4	Noble Motor Truck Co.	Kendallville, Ind.
Northway	1¼, 3, 5	Northway Motors Corp.	Natick, Mass.
O. B. (Elec.)	2, 3½, 5	O. B. Electric Vehicles, Inc.	Long Island City N. Y.
Ogden	1, 1½, 2½, 3½, 5	Ogden Truck Co.	Chicago, Ill.
Oshkosh	2, 2½, 3, 5	Oshkosh Motor Truck Mfg. Co.	Oshkosh, Wis.
Overland	½	Willys-Overland Co.	Toledo, Ohio.
Patriot	1¼ 1½, 2, 2½, 3	Patriot Mfg. Co.	Havelock, Neb.
Pendell	1½	Mechanics Mfg. Co.	Los Angeles, Cal.
Penn	1, 2	Penn Motors Corp.	Philadelphia, Pa.
Pierce-Arrow	2, 3, 4, 5, 6, 7½, T. T.	Pierce-Arrow Motor Car Co.	Buffalo, N. Y.
Rainier	¾, 1, 1½, 2, 2½, 3½, 6	Rainer Trucks, Inc.	Long Island City, N. Y.
Rehberger	2, 3, 4, 5	Arthur Rehberger & Son, Inc.	Newark, N. J.
Reo	1¼, 2 Bus	Reo Motor Car Co.	Lansing, Mich.
Republic	1¼, 1½, 2, 3, 4½, 5-Bus	Republic Motor Truck Co., Inc.	Alma, Mich.
Royal	Bus	Royal Motor Coach Co.	Rahway, N. J.
Ruggles	1, 1¼, 1½, 2, 2½, 3-Bus	Ruggles Motor Truck Co.	Saginaw, Mich.
Rumely	1½	Advance Rumely Thresher Co.	Laporte, Ind.
Safeway Six Wheeler	Bus	The Six Wheel Co.	Philadelphia, Pa.
Sandow	1, 1½, 2, 2½, 3½, 5	Sandow Motor Truck Co.	Chicago Heights, Ill.
Sanford	1¼, 1½, 2½, 3½, 5	Sanford Motor Co.	Syracuse, N. Y.
Saurer	6½, T. T.	Adolph Saurer, Inc.	New York, N. Y.
Schacht	1, 1½, 2, 2½, 3, 3½, 4, 5, 7½-Bus	G. A. Schacht Motor Truck Co.	Cincinnati, Ohio.
Selden	1¼, 2, 2¾, 2½, 3, 3½, 4, 5-Bus	Selden Truck Corp.	Rochester, N. Y.
Service	1, 1½, 2½, 3½, 5 T. T.	Service Motors, Inc.	Wabash, Ind.
Standard	1¼, 1½, 2½, 3½, 6	Standard Motor Truck Co.	Detroit, Mich.
Star	½	Durant Motor, Inc.	New York, N. Y.
Steinmetz (Elec.)		Steinmetz Electric Motor Car Corp.	Arlington, Baltimore, Md.
Sterling	1½, 2, 2½, 3, 4, 5, 6, 10, T.T-Bus	Sterling Motor Truck Co.	Milwaukee, Wis.
Stewart	1, 1¼, 1½, 2, 2½, Bus 3½-4	Stewart Motor Corp.	Buffalo, N. Y.
Stoughton	1¼, 1½, 2, 3,	Stoughton Wagon Co.	Stoughton, Wis.
Studebaker	Bus	Studebaker Corp.	South Bend, Ind.
Super Truck	2½, 3, 3½, 5	O'Connell Motor Truck Co.	Waukegan, Ill.
Tillings Stevens	Bus	American National Omnibus Co.	New York.
Traffic	2, 2½, 3, 3½	Traffic Motor Truck Corp.	St. Louis, Mo.
Traylor	1½, 3, 5	Traylor Eng. & Mfg. Co.	Allentown, Pa.
Twin City	2½, 3½-Bus	Minneapolis Steel & Machinery Co.	Minneapolis, Minn.
U. S.	1¼, 1½, 2, 2½, 3, 4, 5-7	United States Motor Truck Co.	Cincinnati, Ohio
Union	1½, 2½, 4, Bus	Union Motor Truck Co.	Bay City, Mich.
United	1, 1¼, 1½, 2, 2½, 3, 5	United Motor Products Co.	Grand Rapids, Mich.
Uppercu	Bus	Aeromarine Plane & Motor Co., Inc.	Keyport, N. J.
Victor	1¼, 1½, 2, 2½, 3½, 5, 6	Victor Motors, Inc.	East St. Louis, Ill.
Wachusett	1, 1½, 2, 2½	Wachusett Motors, Inc.	Fitchburg, Mass.
Walker (Elec.)	½, ¾, 1, 2, 3½, 5	Walker Vehicle Co.	Chicago, Ill.
Walter (Elec.)	T. T.	Walter Motor Truck Co.	Long Island City, N. Y.
Ward (Elec.)	750 lbs. to 7 ton	Ward Motor Vehicle Co.	Mt. Vernon, N. Y.
Ward La France	2½, 3½, 5, 7-Bus	Ward La France Truck Corp.	Elmira, N. Y.
White	¾, 2, 2½, 3½, 5-Bus	White Co.	Cleveland, Ohio
Wichita	1½, 2, 3	Wichita Motors Co.	Wichita Falls, Tex.
Wilcox	1, 1½, 2½, 3½, 5 Bus	Wilcox Trux, Inc.	Minneapolis, Minn.
Winther	1½, 2½, 3, 3½, 5, 7	Winther Motor Co.	Kenosha, Wis.
Witt Will	1½, 2, 2½, 3, 4, 5	Witt Will Co., Inc.	Washington, D. C.
Yellow Cab	¾, 1-Bus	Yellow Truck & Coach Mfg. Co.	Chicago, Ill.

Motor Bus Chassis Designed Exclu

For Other Chassis Which Are Recommended and Adaptable for Bus Use,

Line Number	MAKE AND MODEL	GENERAL								ENGINE								ELECTRICAL SYSTEM					NORMAL SPEED	
		Seating Capacity	Chassis Price	Weights			Wheelbase	Tread		Make and Model	Number of Cylinders Bore and Stroke	Rated Horse Power N.A.C.C.	Valve Arrangement	Oiling System	Radiator Make	Fuel System		Ignition System Make	Generator and Starter Make	Battery			High M. P. H.	Low M. P. H.
				Chassis Only	Chassis with Body	Recommended Body Allowance		Front	Rear							Carburetor Make	Fuel Feed			Make	Model	Voltage and Amp. Hr. Cap.		
1	Ace C	30	4850	6500	11500	5000	204	70	80½	Con 7T	6–4 1/8x5 1/4	40.8	I	PC	Own	Zen	V	Eis	Rem	USL	3HVX8X	6–110	35	6.0
2	Acme 116	18	....	4910	8460	....	180	58	68	Con 6B	6–3 3/4x5	33.7	L	PC	Per	Zen	V	Eis	Del	Wil	SJRT–6	6–153	45	....
3	Acme 121	22	....	5110	9280	....	205	58	68	Con 7T	6–4 1/8x5 1/4	40.8	L	PC	Per	Zen	V	Eis	Del	Wil	SJRT–6	6–153	45	....
4	Brockway EB	18	....	3850	6350	2500	153	58	58	Wis SU	4–4 x5	25.6	I	FP	G&O	Zen	V	Eis	L-N	Exi	3XE15–1	12–220	42	10.0
5	Brockway EB4	18	....	4000	6400	2500	153	58	58	Wis 6Y	6–3 3/8x5	....	I	FP	G&O	Zen	V	.....	L-N	Exi	3XE15–1	12–220	45	11.0
6	Brockway H	22	....	4975	7975	3000	164	60	65 7/8	Con 6B	6–3 3/4x5	33.7	L	FP	G&O	Zen	V	Eis	L-N	Exi	3XE15–1	12–220	45	8.5
7	Brockway J	22	....	6585	10585	4000	185	66½	71	Con 6B	6–3 3/4x5	33.7	L	FP	G&O	Zen	V	Eis	L-N	Exi	3XE15–1	12–220	35	6.8
8	Clinton 65B	30	4075	5925	8700	2725	184	58½	58½	Bud EBU	4–4 1/4x5 1/2	28 9	L	PC	Own	Zen	V	Bos	Bos	Pol	615KPN	6–180	30	3.0
9	Clinton 65BS	35	4800	6600	9600	3000	220	68	76¾	Bud YBU	4–4 1/2x6	32 4	L	PC	Own	Zen	V	Bos	Bos	Pol	615KPN	6–180	35	3.0
10	Commerce 60	25	....	.....	.....	3000	229	68	75	Con 6B	6–3 3/4x5	33.7	L	PC	Lon	Zen	V	Bos	Bos	Wil	SJRT 4	6–153	35	6.0
11	Commerce 65	29	....	8220	.....	3500	242	68	75	Con 14H	6–4 1/2x5 3/4	48.6	L	FP	Fed	Zen	V	Bos	L-N	Wil	SJRT 30	12–153	35	5.0
12	Concord	25	....	.....	.....	.....	196	58½	58½	Bud Bus	6–4x5 1/2	38.0	L	PC	Own	Zen	V	Bos	L-N	Exi	6LXRE13–3	12–240	42	6.5
13	Day-Elder 20	..	....	5200	7700	2500	168	56	58	Bud KBU	4–4 x5 1/4	25.6	L	PC	Bus	Zen	V	Eis	Bos	Wil	SJRT6	6–153	35	10.0
14	Day-Elder 25	..	....	5600	8600	3000	180	58	58½	Con 6B	6–3 3/4x5	33.7	L	PC	Bus	Zen	V	Eis	Bos	Wil	SJRT6	6–153	35	7.0
15	Day-Elder 30	..	....	7000	11000	4000	196	68½	74	Bud BUS	6–4x5 1/2	38.4	L	PC	Bus	Zen	V	Eis	L-N	Wil	SJRT6	6–153	35	7.0
16	Denby 36	30	....	7000	10500	3500	216	74	74	Con 6B	6–3 3/4x5	33.7	L	PC	Lon	Zen	V	RBo	RBo	Wil	SJRT 30	12–153	30	....
17	Dorris M4	18	3535	4200	7700	3500	176	57¼	57 3/8	Own	4–4 1/4x5 1/2	28.9	L	PC	Mod	Str	V	Bos	Bos	Wil	SJRT5	6–130	40	5.0
18	Dorris L-6	25	5450	6475	11000	....	224	72¼	72¾	Own	6–4 x5	38.4	I	PC	Mod	Str	V	Bos	N-E	Wil	SJRT30	12–153	45	5.0
19	Duplex FB	23	....	5500	.....	3000	181	58	72	Bud EBUI	4–4 1/4x5 1/2	28.9	L	PC	Mod	Zen	V	Eis	Wes	Pol	.....	6–220	35	10.0
20	Fageol Parlor Car	22	6315	6770	10550	....	230	72	78¼	HaS 75	6–4 1/4x5 1/2	43.6	I	PC	Lon	Zen	V	Del	Del	USL	6-SOX-J-6-Z	12–118	35	7.0
21	Fageol Street Car	29	5565	6480	10000	....	218	70	78¼	HaS 50	4–4 1/2x5 1/2	28.9	I	PC	Lon	Zen	V	Del	Del	USL	6-SOX-J-6-Z	12–118	35	7.0
22	Federal	25	....	5450	.....	2500	190	60	60	Con 6B	6–3 3/4x5	33.7	L	PC	Mod	Zen	V	Eis	Rem	Exi	3LXRE	6–185	35	6.0
23	Fifth Ave. J	25	....	5850	8530	2780	172	67 3/8	71¼	Yell EZ	4–4 x6	25.6	X	PC	Own	Zen	V	Eis	N-E	Wil	STRN27	12–90	30	7.5
24	Fifth Ave. L	55	....	6850	12040	5190	174¾	67	77½	Yell EZ	4–4 x6	25.6	X	PC	Own	Zen	G	Eis	N-E	Wil	STRN27	12–90	27	5.0
25	Garford 51D	29	....	6500	9900	3400	187	68	80	Bud Bus	6–4x5 1/2	38.0	L	PC	Own	Str	V	Spl	Rem	Wil	STRN6	6–190	35	5.0
26	Garford KB	17	....	3600	6000	2400	180	58	59½	Wis Y	6–3 5/8x5	27.3	I	FP	Lon	Zen	V	A-L	A-L	Wil	SJRT–5	6–135	35	7.3
27	Garford CB	29	....	6900	11300	4400	220	72	76	Wis Z	6–4 1/2x5	48.6	I	FP	Lon	Zen	V	Spl	L-N	Wil	SJRT–30	12–153	57	11.9
28	Gary 45B	40	5500	....	.....	....	220	68	72	Bud GL6	6–4 1/2x6	48.6	..	....	Chi	Str	V	Rem	Rem	.....	.....	.....	....	....
29	Gotfredson 56B	60	....	.....	.....	....	228½	71	78	Bud GL6	6–4 1/2x6	48.6	L	PC	.....	Zen	V	R–Bo	N.E	Wil	KBR 13	12–250	....	....
30	Gotfredson 50B	29	....	.....	.....	....	208°	71	75	Bud BUI	6–4 x5 1/2	38.4	L	PC	.....	Zen	V	R–Bo	N.E	Wil	KBR 13	12–250	....	....
31	Graham Bros. YB	21	1600	3700	6200	2500	158	56	56	Dodge	4–3 7/8x4 1/2	24.0	L	PS	McC	Ste	V	N-E	N-E	Exi	6LXR11–1	12–90	30	4.0
32	Gramm & Kincaid 6-15-3	15	1755	3100	5100	2000	164	57	58	Con 8R	6–3 5/8x5 1/2	27.3	L	PC	Own	Zen	V	A-L	A-L	USL	.....	6–135	50	5.0
33	Gramm & Kincaid 6-20-3	20	2760	3800	6300	2500	184	57	58	Con 6B	6–3 3/4x5	33.8	L	PC	Own	Zen	V	A-L	A-L	USL	.....	6–135	50	5.0
34	Gramm & Kincaid 6-25-3	25	3100	3900	6400	2500	184	57	58	Con 6B	6–3 3/4x5	33.8	L	PC	Own	Zen	V	A-L	A-L	USL	.....	6–135	50	5.0
35	Grass Premier ZR3	22	5200	5150	8600	3500	200	70	76½	Wau	6–4 5/8x5 3/4	45.9	L	PC	Chi	Str	V	Eis	Ros	Exi	.....	6	40	2.0
36	Guilder 20	17	2500	3650	.....	....	152	56	56	Con 8R	6–3 3/4x4 1/2	27.3	..	....	G&O	Zen	V	.....	Bos	.....	.....	.....	....	....
37	Guilder 26	21	3650	.....	.....	....	180	60	60	Con 6B	6–3 3/4x5	33.7	..	....	G&O	Zen	V	Bos	Bos	.....	.....	.....	....	....
38	Guilder 36	25	4850	6000	.....	....	204	68	72	Bud Bus	6–4 x5 1/2	38.0	..	....	G&O	Zen	V	.....	L-N	.....	.....	.....	....	....
39	Hahn	20	....	4600	8200	....	186	56	60	Con	6–3 3/4x5	33.7	L	....	Chi	Sch	..	Bos	N-E	Wil	.....	12–220	....	5.0
40	Hahn	30	....	6500	9600	....	245	68	72	Con	6–4 1/2x5 1/2	48.6	L	....	Chi	Sch	..	Bos	N-E	Wil	.....	12–220	....	5.0
41	International SL	16	....	.....	.....	....	150	56	56½	Lyc Spec	4–3 1/2x5	19.6	L	PC	.....	Own	G	Con	A-L	Pol	.....	6–100	35	....
42	Kissel	18	4500	5200	7780	2400	202	64½	66	Own 4–36	4–4 1/4x5 1/2	28.9	L	Sp	Spa	Str	V	Bos	Rem	Wil	SJRT6	6–153	40	....
43	Larrabee X-2, L-10	15	1965	3450	4850	1400	155	56	56	Con 8R	6–3 3/4x4 1/2	27.3	L	PC	Fed	Zen	V	Bos	Bos	Exi	3XE15	6–80	40	8.0
44	Larrabee XH4	25	....	6980	10000	3000	220	64	72	Con 6B	6–3 3/4x5	33.7	L	PC	Fed	Zen	V	L-N	L-N	Exi	6LXRE13–1	12–240	35	5.0
45	Maccar	..	....	7500	12000	4500	228¾	73	77	Bud Bus	6–4 x5 1/2	38.4	L	PC	Bus	Str	V	DJ	Bos	Pol	615KPK	6–240	40	7.5
46	Mack AB	25	....	.....	.....	....	196	68	63 1/8	Own AB	4–4 1/4x5	28.9	L	PC	Own	Str	V	Spl	N-E‡	Exi	6LXRE13	12–120	....	....
47	Mack AB	29	....	.....	.....	....	225	68	63 1/8	Own AB	4–4 1/4x5	28.9	L	PC	Own	Str	V	Spl	N-E‡	Exi	6LXRE13	12–120	....	....
48	Mack AB	25	....	.....	.....	....	230	68	63 3/8	Own AB	4–4 1/4x5	28.9	L	PC	Own	Str	V	Spl	N-E‡	Exi	6LXRE13	12–120	....	....
49	Master	30	....	6000	9500	3500	194	59	59	Bud EBU	4–4 1/2x5 1/2	28.9	L	PC	Chi	Zen	V	Eis	Wes	Wil	.....	12–	25	5.0
50	Menominee T	16	....	4290	7500	3200	175°	60	58	Wis Y	6–3 3/4x5	27.3	L	PC	Own	Zen	V	Rem	Rem	Wil	SJRT6	6–153	38	....
51	Menominee DB	25	....	6020	9100	3200	186	68	73	Wis TAU	4–4 x6	25.6	L	PC	Own	Zen	V	Eis	Bos	Wil	SJRT6	6–153	32	6.0
52	Moreland RC	16	2280	3850	5850	2000	180	56	57¼	Her OBX	4–4 x5	25.6	L	PC	Own	Zen	V	Spl	A-L	Hob	6HTXR15A	6–140	25	....
53	Moreland EC	20	3780	4590	7590	3000	178	61	58	Con K4	4–4 1/2x5 1/4	27.2	L	FP	Own	Sch	V	Spl	Spl	Hob	6HTXR15A	6–140	25	....
54	Moreland AC	25	4700	5660	9160	3500	187	68	69	Con L4	4–4 1/2x5 1/2	32.5	L	FP	Own	Sch	V	Spl	Spl	Hob	6HTXR15A	6–140	25	....
55	Pierce-Arrow Z	25	4600	6100	9100	3000	196	68	75 5/8	Own	6–4 x5 1/2	38.0	T	FP	Own	Own	P	Del	Del	Wil	SJRT30	12–132	50	3.0
56	Pierce-Arrow Z	30	4750	6200	9700	3500	220	68	75 5/8	Own	6–4 x5 1/2	38.0	T	FP	Own	Own	P	Del	Del	Wil	SJRT30	12–132	50	3.0
57	Reo W Sedan	16	2350	3700	7250	3500	176	58	58¼	Own W	6–3 1/8x5	24.3	F	PS	Own	Sch	V	N-E	N-E	Wil	SJRT6	6–153	37	10.0
58	Reo W Street Car	21	2525	3860	7360	3500	176	58	58¼	Own W	6–3 1/8x5	24.3	F	PS	Own	Sch	V	N-E	N-E	Wil	SJRT6	6–153	37	10.0
59	Republic 81	15	....	.....	.....	2000	185	60	58	Lyc	4–4 x5	25.6	L	PC	Own	Str	V	Bos	Bos	USL	.....	6–156	35	....
60	Royal D	25	....	6900	.....	3400	204	68	72	Wis Z	6–4 1/2x5	48.6	I	FP	.....	Zen	V	Rem	Rem	Wes	.....	6–287	....	....
61	Royal E	29	....	7100	.....	3600	218	68	72	Wis Z	6–4 1/2x5	48.6	I	FP	.....	Zen	V	Rem	Rem	Wes	.....	6–287	....	....
62	Ruggies 60	20	....	4500	6300	....	180	58	69½	Wis	6–3 3/8x5	27.3	I	FP	Per	Zen	V	Rem	Rem	Wil	STRN–6	6–177	45	5.5
63	Ruggies 65	25	....	5000	.....	....	200	68	69½	Wis	6–3 3/8x5	27.3	I	FP	Per	Zen	V	Rem	Rem	Wil	STRN–6	6–177	45	....
64	Ruggies 70	30	....	5500	8800	....	218	68	72	Wis	6–4 1/2x5	48.6	I	PC	Per	Zen	V	Rem	Rem	Wil	STRN–6	6–177	45	5.5
65	Safeway 6 Wh'l'r 37	27	....	.....	11000	....	224°	68	78	Con 6B	6–3 3/4x5	33.7	L	PC	Mod	Str	V	Eis	N-E	Wil	.....	12–154	....	....
66	Safeway 6 Wh'l'r 64	29	....	8000	12650	....	224	68	78	Con 12T	6–4 1/4x5 1/4	44.0	L	FP	Mod	Str	V	Eis	N-E	Wil	SJRT–6	12–154	30	....
67	Safeway 6 Wh'l'r 63	27	....	8500	12950	....	255	68	78	Con 12T	6–4 1/4x5 1/2	44.0	L	FP	Mod	Str	V	Eis	N-E	Wil	SJRT–6	12–154	35	....
68	Safeway 6 Wh'l'r 55	27	....	8750	12950	....	255	71	78	Con 14H	6–4 1/2x5 3/4	49.0	L	FP	U.S	Str	V	Eis	N-E	Wil	SJRT–6	12–154	35	....
69	Safeway 6 Wh'l'r 66	63	....	10000	16550	....	234	74	78	Con 14H	6–4 1/2x5 3/4	49.0	L	FP	U.S	Str	V	Eis	N-E	Wil	KBR–13	12–285	20	....
70	Schacht	25	5900	.....	.....	4000	217°	67½	84¾	Wis Z	6–4 1/2x5	48.6	I	FP	Own	Sch	V	RBo	L-N	Alc	AF11	12–175	55	....
71	Selden Pacemaker	18	2350	3650	.....	2000	162°	56	56	Con 8R	6–3 1/2x4 1/2	27.3	L	PC	Own	Str	V	N-E	N-E	Wil	SJRT 30	12–153	50	5.0
72	Selden Roadmaster	21	....	5200	.....	3000	177°	58	60	Con 6B	6–3 3/4x5	33.7	L	PC	Own	Str	V	N-E	N-E	Wil	.....	12–150	50	5.0
73	Sterling GB2	29	....	6100	.....	....	198	60¼	63	Own CU	4–4 1/4x5 3/4	30.6	L	PC	Own	Zen	V	Eis	Bos	Gou	.....	.....	....	....
74	Sterling GB4	29	....	6200	.....	....	198	60¼	63	Own DU	4–4 1/2x6 1/4	32.4	L	PC	Own	Zen	V	Eis	Bos	Gou	.....	.....	....	....
75	Sterling GB6	29	....	6800	.....	....	223	60¼	63	Own 6A	6–4 x5 3/4	38.4	L	PC	Own	Zen	V	Eis	Bos	Gou	.....	.....	....	....
76	Stewart	25	4600	6800	.....	4100	198	64½	73¼	Con	6–3 3/4x5	33.7	L	FP	G&O	Str	V	Rem	Rem	USL	6SOXJ62	6–118	40	6.0
77	Stewart	25	4700	6000	.....	....	220	..	73¼	Con	6–3 3/4x5	33.7	..	FP	G&O	Str	..	Rem	Rem	USL	.....	.....	....	....
78	Studebaker N158	15	1785	3325	6100	....	158	56 5/8	58½	Own	6–3 7/8x5	36.2	L	FP	McC	B.B.	V	Rem	Rem	Wil	.....	6–111	....	....
79	Studebaker A184	20	2150	3685	7200	....	184	56 5/8	58½	Own	6–3 7/8x5	36.2	L	FP	McC	B.B.	V	Rem	Rem	Wil	.....	6–155	....	....
80	Tilling Stevens X	33	....	8860	.....	....	230	71	78¼	Wau 6Q	6–4 x5 3/4	....	L	PC	.....	Zen	V	RBo	L-N	USL	6SOXJ8B	12–300	....	....
81	Tilling Stevens W	22	....	8860	.....	....	230	71	78¼	Wau 6A	6–4 1/2x5 3/4	....	L	PC	.....	Zen	V	RBo	L-N	Exi	LXRE–13–1	12–	....	....
82	Tilling Stevens Z	64	....	8890	.....	....	224	71	78¼	Wau 6A	6–4 1/2x5 3/4	....	L	PC	.....	Zen	V	RBo	L-N	USL	NC 613	12–	....	....
83	Twin City DW	25	4950	7500	11500	4100	210	72	76	Own TW	4–4 1/4x6	28.9	I	PC	Mod	Zen	V	Bos	L-N	Wil	SJRT30	12–153	35	6.0
84	Union GW	29	....	6500	10000	3500	241°	73½	75	Wis Z6	6–4 1/2x5	48.6	I	PC	Lon	Zen	V	Bos	Bos	Pol	617KPK	6–190	35	5.0
85	Union EC	21	....	4500	7000	2500	198°	58	58	Wis Y6	6–3 3/4x5	29.9	I	PC	Lon	Zen	V	Bos	Bos	Pol	KPK617	6–190	40	5.0
86	Uppercu 220-80-S	30	....	7400	11500	3700	220	70	80	Con 6B	6–3 3/4x5	33.7	L	PC	McC	Str	V	Del	Rem	Wes	HU 16	6–300	40	8.0
87	Uppercu 220-80-D	68	....	8300	14500	6200	220	70	80	Con 6B	6–3 3/4x5	33.7	L	PC	McC	Str	V	Del	Rem	Wes	HU 16	6–300	30	6.0
88	Ward LaFrance 3B	25	4950	6300	9700	3400	196	58	65½	Wau DU	4–4 1/2x6 1/4	32.4	L	PC	Bus	Str	V	RBo	RBo	Wil	SJAT 30	12–132	35	....
89	White 50A	25	4950	5800	.....	....	198°	58½	67 5/8	Own GR	4–4 1/4x5 3/4	28.9	L	PC	.....	Zen	V	.....	L-N	Opt	.....	12–132	....	....
90	Wilcox M	..	....	.....	.....	....	226¼	68½	80	Con 14H	6–4 1/2x5 3/4	48.6	..	....	.....	Zen	V	Del	Del	.....	.....	.....	....	....
91	Yellow Coach Z	29	....	.....	.....	....	200	72½	76¾	Kni	4–4 x6	25.6	X	....	.....	Zen	V	.....	N-E	.....	.....	12–100	....	....
92	Yellow Coach Y	25	....	.....	.....	....	225	74¾	74 5/8	Kni	6–4 1/2x5 1/2	48.6	X	....	.....	Zen	V	N-E	N-E	.....	.....	12–100	....	....
93	Yellow Coach X	17	....	.....	.....	....	210	66	68	Kni	6–3 1/2x4 1/2	29.3	X	....	.....	Zen	V	.....	N-E	.....	.....	12–100	....	....
94	Yellow Coach Z	67	....	.....	.....	....	230	72	76¾	Kni	6–4 1/4x5 1/2	43.3	X	....	.....	Zen	V	.....	N-E	Exi	3MVE–13–1	12–	....	....

—Pneumatic †—Dual Pneumatic ††—Solid §—Dual Solid ‡—Pneumatics at extra cost ‡—Dual Pneumatics at extra cost

sively for Passenger Transportation

See Models Having Sign (§) in the "COMMERCIAL CAR SPECIFICATIONS"

Line Number	TRANSMISSION: Clutch: Type and Make	TRANSMISSION: Gearset: Make and Model	TRANSMISSION: Gearset: Location	TRANSMISSION: Gearset: Number of Forward Speeds	TRANSMISSION: Universal: Make	REAR AXLE: Make and Model	REAR AXLE: Final Drive	REAR AXLE: Type	REAR AXLE: Gear Ratio: Total in High	REAR AXLE: Gear Ratio: Total in Low	REAR AXLE: Service Brake Type and Location	Front Axle Make and Model	Steering Gear Make	TIRES AND WHEELS: Tires (in.): Front	TIRES AND WHEELS: Tires (in.): Rear	TIRES AND WHEELS: Wheels—Make	TIRES AND WHEELS: Rims—Make	DIMENSIONS (In.): Floor Height	DIMENSIONS (In.): Turning Radius	DIMENSIONS (In.): Overall: Length	DIMENSIONS (In.): Overall: Width	DIMENSIONS (In.): Clearance from Ground
1	D. B. L.	B. L. 60	U	4	U-M	Tim 6516	W	F	5.4	26.6	I-R	Tim 1550	Ros	36x6	36x6†	Day	Fir	27½	34	316	90	9¾
2	D. B. L.	B. L. 51	U	4	Blo	Cla B6000	.....	½	5.5	26.4	I-R	Shu	Ros	32x6*	32x6†	Mot	Fir	21¾	.....	259	83¾	9¾
3	D. B. L.	B. L. 51	U	4	Blo	Cla B720	.....	½	5.5	26.4	I-R	Shu	Ros	32x6*	32x6†	Mot	Fir	21¾	.....	276	83¾	9¾
4	D. B. L.	B. L. 30	U	3	Spi	Col 53000	B	¾	5.1	.....	E-R	Col 5200	Gem	32x6	36x6†	Van	Fir	28½	28	243	64	9
5	D. B. L.	B. L. 30	U	3	Spi	Col 53000	B	¾	5.1	.....	E-R	Col 5200	Gem	32x6	36x6†	Van	Fir	28½	28	243	64	9
6	D. B. L.	B. L. 55	U	4	Spi	Huck 25	B	F	6.6	.....	.....	Shu 5550	Ros	32x6	32x6†	Bud	Fir	.....	30	256	74	8½
7	D. B. L.	B. L. 55	U	4	Spi	Tim 6516	Ig	F	7.7	.....	.....	Shu 610B	Ros	36x6	36x6†	Bud	Fir	27½	32	295¼	90	7½
8	D. B. L.	B. L. 55	S	4	M-E	Tim 3566	W	F	6.5	34.8	I-R	Tim1544B	Ros	36x6*	36x6†	Bud	Fir	30	37	270	75½	9½
9	D. B. L.	B. L. 55	S	4	M-E	Tim 6516	W	F	6.7	36.1	I-R	Tim 1550	Ros	36x6	36x6†	Bud	Fir	26	40	286	90	7
10	B. L. 70	B. L 60H.	A	4	Blo	Tim 6516	W	F	6.8	27.2	I-R	Tim 1550	Ros	36x6	36x6†	Bud	Fir	20½	.....	330	90	7
11	B. L. 70	B. L. 60H	A	4	Blo	Tim 6516	W	F	5.4	21.6	I-R	Tim 1550	Ros	36x6	36x6†	Bud	Fir	20½	.....	343	90	7
12	D. B. L.	B. L. 51	U	4	Spi	Tim 6570S	W	F	6.0	32.1	I-R	Shu 5550B	Ros	36x6	36x6†	Bud	Fir	28	.....	.....	.....	7
13	D. B. L.	B. L. 35	U	4	Spi	Tim 6462	W	½	6.5	21.8	I-R	Tim 1526	Gem	36x6*	38x7*	Van	Fir	32	30	246½	70½	11
14	D. B. L.	B. L. 51	U	4	Spi	Tim 6566	W	F	6.7	36.1	I-R	Tim 1544	Gem	36x6*	40x8*	Bud	Fir	32	30	260	75½	12
15	D. B. L.	B. L. 51	U	4	Spi	Huck 85	R	F	5.7	30.6	I-R	She D 445	Gem	36x6*	36x6*	Bud	Fir	25	27	293	90	10½
16	D. Ful	Ful GU14	U	4	Blo	Cla 3D	Ig	D	7.0	33.6	I-R	Shu 610B	Ros	36x6*	36x6†	Bud	Fir	21	34	294	91	8
17	B. L.	B. L. 51	U	4	Spi	Wis DR	B	....	4.6	24.6	IA	Tim	Ros	32x6	32x6†	Bud	....	23½	32	264	84	9
18	D. B. L.	B. L. 55	U	4	Spi	Wis	R	½	4.8	.....	I-R	Tim 1560	Ros	36x6	36x6	Bud	....	24	36	309	90	8
19	D. B. L.	B. L.	U	4	Pet	Vul 4	W	F	6.5	32.1	I-R	Shu	Ros	34x5	34x5†	Mot	Fir	27	28	268	82	9
20	D. B. L.	B. L. 55	U	4	Spi	Tim 65190	W	F	4.6	19.7	I-R	Tim 1550	Ros	36x6*	36x6†	Bud	....	20¾	38½	342	89	7½
21	D. B. L.	B. L. 55	U	4	Spi	Tim 65190	W	F	4.6	19.7	I-R	Tim 1524	Ros	36x6*	36x6†	Bud	....	22½	38	339	89	7½
22	P. B. & B.	Det R400	S	4	Spi	Tim 6566	W	F	6.7	39.8	.....	Own	Gem	36x6*	36x8*	Smi	Fir	30	28	266⅜	.....	10
23	P. Own	Own J	S	4	Sne	Tim 6412	W	½	5.4	21.6	I-R	Tim 1523	Ros	36x6*	36x6†	Bud	....	29½	33	277	87½	7
24	P. Own	Own L	S	4	Sne	Own L	Ig	F	6.6	.....	E-D	Own L	Ros	36x5††	36x5§	Own	....	25	33	296	90	6
25	D. Own	Own 51D	S&U	8	Spi	Tim 6516	W	F	5.4	26.1	I-R	Tim 1550	Ros	36x6*	36x6†	.....	Fir	28¼	30	295	91	7
26	D. B. L.	B. L. 31	U	3	U-M	Tim 5516H	B	½	5.3	21.3	I-F	Tim 2341H	Lav	32x6	32x6	Day	Fir	23	28	.....	84	9
27	D. B. L.	B. L. 60S	U	4	Spi	Tim	W	F	4.8	16.7	I-F	Tim 1560C	Ros	36x6	36x6†	Bud	Fir	23	35	.....	.....	6½
28	Ful	Ful	U	4	Spi	Tim	W	F	.....	.....	.....	Tim	Ros	36x6*	36x6†	Bud	Fir	26	.....	298	.....	.....
29	D. Dodge	Dodge	U	3	UP	Own	W	½	6.3	26.3	I-R	Own	Dodge	32x6	34x7‡*	Smi	Fir	26	29½	248	86	8
30	P. B&B	B. L.	U	4	Spi	Tim 6422	W	F	4.5	.....	I-F	Tim	Ros	36x8*	36x8*	Bud	....	24 ⅞	.....	.....	.....	.....
31	P. B&B	B. L.	U	4	Spi	Tim 6521	W	F	4.8	.....	I-F	Tim	Ros	36x6*	36x6*	Bud	....	24 ⅞	.....	.....	.....	.....
32	Cov	Cov	U	3	Thei	Eat	B	½	5.33	21.3	I-F	Col	Ros	30x5	30x5	.....	Fir	28½	25	.....	.....	9
33	Cov	Cov	U	3	Thei	Eat	B	½	5.33	21.3	I-F	Col	Ros	32x6	32x6	Smi	Fir	21	28	247	.....	9
34	Cov	Cov	U	3	Thei	Wis	R	½	.....	.....	I-F	Col	Ros	32x6	34x7	Smi	Fir	22	28	247	.....	9
35	D. B. L.	B. L. 51	S	7	Spi	Tim 6566	W	F	4.6	.....	I-F	Con	Ros	32x6	32x6†	Van	Fir	22	33	298	89	7
36	D. B. L.	B. L. 31	....	3	.....	.....	B	....	.....	.....	.....	Shu 5410	Ros	36x5	33x5†	Bud	....	25	.....	.....	.....	.....
37	B. L.	B. L. 51	U	3	Spi	Wis 660	R	....	6.0	.....	.....	.....	Ros	32x6	32x6†	Bud	....	26	.....	.....	.....	.....
38	D.	B. L. 51	....	4	.....	.....	R	....	.....	.....	.....	She 445	.....	36x6	36x6†	Bud	....	26	.....	.....	.....	.....
39	B. L.	B. L. 51	....	4	Spi	Wis	.....	.....	5.0	.....	I-R	She D484	Ros	32x6	32x6	Bud	Fir	25	20	250	84	8½
40	B. L.	B. L. 60	....	4	Spi	Tim	.....	.....	6.0	.....	I-R	She D445	Ros	34x7	34x7	Bud	Fir	30	30	336	90	9
41	D. Mun	Mun	U	3	Own	Eat	Ig	F	5.4	.....	I-R	Eat	Own	33x5	33x5	Own	....	24	.....	217	56	.....
42	D. B. L.	B. L. 35	U	4	Spi	Wis 60B	R	....	5.8	19.0	I-R	Shu 610	Ros	34x7*	34x7*	Whi	Gdy	24	.....	252	76	8
43	D. B. L.	B. L. 31	U	3	Sne	Sal D	B	¾	7.7	27.6	E-R	Sal	Gem	34x5	34x5	Ind	Fir	29	27	220	70	11
44	D. B. L.	B. L. 31	U	3	Spi	She	W	½	5.5	26.4	I-R	Shu5550B	Ros	32x6	32x6†	Bud	..	25	28	262	86	9
45	D.B.L.	B.L. 55	U	4	Spi	Huck 85	R	F	6.65	35.8	I-R	She D 445	Ros	34x7	34x7†	Bud	Fir	27½	41	312½	92½	7½
46	D. Own	Own AB	U	4	Spi	Own AB	R	F	Opt	Opt	I-R	Own AB	Own	32x6‡	32x6‡*	Bud	Fir	25¾	28¼	228	78½	8¼
47	D. Own	Own AB	U	4	Spi	Own AB	R	F	Opt	Opt	I-R	Own AB	Own	34x7‡	34x7‡*	Bud	Fir	25¾	32	317¼	78½	8¼
48	D. Own	Own AB	U	4	Spi	Own AB	R	F	Opt	Opt	I-R	Own AB	Own	36x6‡	36x6‡*	Bud	Fir	27¼	32½	307¼	78½	10¼
49	D. Ful	Ful GU7	U	4	Spi	Wal 25A	R	F	7.6	37.0	R	Shu 610	Ros	36x6	40x8	StM	Fir	26	33½	.....	.....	.....
50	D. Det	Cot AAU	U	3	Spi	Wis	R	½	.....	.....	I-R	Shu	Ros	32x6*	32x6†	Ind	....	23½	28	.....	.....	10
51	D-Det	Cot AU	U	4	Spi	Wis 120K	R	½	6.1	32.0	I-R	Tim 1550	Ros	36x6*	36x6†	Ind	Fir	26	30	256	86	10
52	D. B. L.	B. L. 30	U	3	Pet	Tim 5512	W	½	5.5	22.0	E-R	Tim 1250	Ros	32x6	32x6	Own	Gdy	23½	.....	.....	.....	7
53	D. B. L.	B. L. 51	U	4	Pet	Tim 6410	W	½	6.0	32.1	I-R	Tim 1550	Ros	34x5*	34x5†	Bud	....	24½	.....	.....	.....	8½
54	D. B. L.	B. L. 51	U	4	Pet	Tim 6516	W	F	6.0	32.1	I-R	Tim 1550	Ros	36x6*	36x6†	Bud	....	25½	.....	.....	.....	9
55	Own	Own	A	4	Spi	Own	W	F	6.0	32.0	E-D	Own	Own	36x6*	36x6†	Bud	....	28	37½	282	89 ⅞	8
56	Own	Own	A	4	Spi	Own	W	F	6.0	32.0	E-D	Own	Own	36x6*	36x6†	Bud	....	28	40	303	89 ⅞	8
57	Own	Own W	S	3	Own	Own W	S	½	5.7	21.0	E-R	Own W	Own	32x6	34x7	Bud	....	28½	31	278	84	8¼
58	Own	Own W	S	3	Own	Own W	S	½	5.7	21.0	E-R	Own W	Own	32x6	32x6†	Bud	....	28½	31	264½	88½	8¼
59	Ful	Ful	U	3	Spi	Eat	Ig	D	6.2	25.0	E-D	Eat	Jac	34x7	34x7‡*	Van	Fir	21	.....	270½	67¼	7½
60	D. B. L.	B. L.	U	4	Pet	Tim 6522	W	F	5.3	.....	.....	Tim	Ros	36x6*	36x6*	Bud	.....	.....	.....	.....	.....	.....
61	D. B. L.	B. L.	U	4	Pet	Tim 6522	W	F	5.3	.....	.....	Tim	Ros	36x6*	36x6†	Bud	.....	.....	.....	.....	.....	.....
62	D. B. L.	B. L.	U	4	.....	Wis 460	S	F	5.50	27.3	A	Shu 5550	Jac	30x5	30x5†	Bud	Fir	24	28	272	90	9
63	D. B. L.	B-L.	U	4	.....	Wis 66	S	F	5.83	23.3	.....	Shu 5550B	Jac	32x6	32x6†	Bud	Fir	24	30	287	90	9
64	D. B. L.	B. L. 60	U	4	.....	Wis 66	R	F	5.83	23.3	A	Shu 5550B	.....	32x6	32x6†	Bud	Fir	24	32	310	90	9
65	B-L	B-L	U	4	Blo	Tim 6422	W	F	.....	.....	I-R	Tim 1550	Ros	34x7*	34x7*	Bud	....	22⅞	35	320¼	88⅞	.....
66	B-L.	B-L.	U	4	Blo	Tim 6422	W	F	.....	.....	I-R	She D 445	Ros	34x7*	34x7*	Bud	Fir	.....	35	339	88⅞	.....
67	B-L.	B-L.	U	4	Blo	Tim 6422	W	F	.....	.....	I-R	She D 445	Ros	34x7*	34x7*	Bud	Fir	22½	37½	353	88⅞	.....
68	B-L.	B-L.	U	3	Blo	Tim 6422	W	F	.....	.....	I-R	Tim 1660C3	Ros	34x7*	34x7*	Bud	Fir	22½	37½	353	88⅞	.....
69	B-L.	B-L.	U	3	Blo	Tim 6422	W	F	.....	.....	I-R	Tim 1660A1	Ros	36x8	36x8	Bud	Fir	28⅜	36	374	88⅞	.....
70	D. B. L.	Own	A	8	Blo	Wis	R	F	6.0	30.0	I-F	She	Ros	36x6*	36x6†	Bud	Fir	24½	33½	.....	91¼	7½
71	D.B.L.	B. L. 31	U	3	Blo	Cla 501	B	½	Opt	Opt	.....	Shu	Ros	32x6	32x6	Van	....	24	.....	Opt.	Opt.	7½
72	B. L.	B. L.	U	4	Blo	Cla 720	.....	.....	Opt	Opt	.....	Tim	Ros	32x6	36x8	Van	....	24	.....	.....	.....	.....
73	D. B. L.	B. L. 50	U	4	Spi	Tim 6564	W	F	5.4	28.9	.....	Tim 1554B	Ros	36x6*	36x6†	Bud	.....	.....	.....	287	.....	.....
74	D. B. L.	B. L. 55	U	4	Spi	Tim	W	F	5.4	28.9	.....	Tim 1544B	Ros	36x6*	36x6†	Bud	.....	.....	.....	287	.....	.....
75	D. B. L.	B. L. 55	U	4	Spi	Tim	W	F	5.4	28.9	.....	Tim 1544B	Ros	36x6*	36x6†	Bud	.....	.....	.....	318	.....	.....
76	D.	.....	U	4	.....	.....	B	.....	.....	.....	.....	.....	.....	32x6	32x6†	Bun	.....	.....	.....	.....	.....	8
77	D.	.....	U	4	.....	.....	B	.....	.....	.....	.....	.....	.....	32x6	32x6†	Bud	.....	.....	.....	.....	.....	8
78	P.Own	Own	U	3	Spi	Own	B	½	4.7	.....	I-F	Own	Own	34x7.30	34x7	Bud	.....	.....	30½	.....	.....	.....
79	P.Own	Own	U	3	Spi	Own	B	½	4.7	.....	I-F	Own	Own	34x7.30	34x7	Bud	.....	.....	33½	.....	.....	.....
80	.....	.....	.....	.....	.....	Tim ENQ	W	¾	.....	.....	I-F	Tim	Ros	34x7*	34x7*	Bud	.....	.....	.....	.....	.....	.....
81	.....	.....	.....	.....	.....	Tim ENQ	W	F	.....	.....	I-F	Tim	Ros	34x7*	34x7*	Bud	.....	.....	.....	.....	.....	.....
82	.....	.....	.....	.....	.....	Tim ENQ	W	F	.....	.....	I-F	Tim	Ros	34x7††	34x7††	Bud	.....	.....	.....	.....	.....	.....
83	D. Ful	Ful HU-16	U	4	Spi	Tim6518B2	W	F	4.8	30.2	I-R	Tim1560B2	Ros	36x6*	36x6†	Bud	....	22	36	310	90	7
84	Ful HU16	Ful 4	A	4	Blo	Wis 675	R	F	5.8	34.8	I-R	Shu 610B	Jac	32x6	32x6†	Bud	....	26	30	343	90	6
85	Ful GU14	Ful 4	U	4	Blo	Wis 460	R	F	5.0	24.0	I-R	Shu 5550B	Jac	34x7	34x7†	Bud	....	26	28	280	87	9
86	B. L.	B. L.	....	....	Own	.....	.....	.....	.....	.....	.....	.....	Ros	38x9*	36x10	Own	Fir	19	27	330	95	9
87	B. L.	B. L.	....	....	Own	.....	.....	.....	.....	.....	D.R.	.....	Ros	38x9*	36x10	Own	Fir	19	27	336	95	9
88	D. B. L.	B. L. 55	A	4	Spi	Tim	W	F	6.0	32.1	I-R	She	Ros	36x6*	36x6†	Bud	Fir	28	36	304	75½	9½
89	Own	Own 50A	U	4	Spi	Own 50A	R	½	4.6	23.2	E-D	Own 50A	Own	32x6	32x6†	Bud	Fir	28½	32½	274¾	81¼	7 ⅞
90	D.	.....	U	4	.....	.....	R	F	6.5	.....	I-R	.....	.....	36x6	36x6†	.....	.....	21½	.....	324	94	.....
91	D.	.....	.....	.....	.....	Tim	W	½	.....	.....	.....	Tim	Ros	36x6*	36x6†	.....	.....	26⅜	36	322	90	.....
92	D.	.....	.....	.....	.....	Tim	S	½	.....	.....	.....	Tim	Ros	36x6*	36x6†	.....	.....	25	31¼	269	90	.....
93	D.	.....	.....	4	.....	Tim	S	½	.....	.....	.....	Tim	Ros	32x6*	32x6†	.....	.....	23 1/16	29	260	84	.....
94	.....	.....	.....	.....	.....	Tim	W	½	.....	.....	.....	Tim	Ros	34x6††	34x6§	.....	.....	23½	.....	.....	.....	.....

D. R.—Drive-shaft & rear I. F—Internal Four Wheels I-R—Internal Rear Wheels E-D—External Driveshaft Ig—Internal Gear E-R—External Rear Wheel

KEY OF ABBREVIATIONS

Wheelbase:

°—More than one wheelbase furnished.

Tires:

§§—Unless marked otherwise all tires are solids.
•—Pneumatics standard equipment.
‡—Pneumatics at Extra Cost.
†•—Dual pneumatics standard.
‡•—Dual pneumatics extra cost.
††—Dual pneumatics extra cost.

Engine:

Bud—Buda Co., Harvey, Ill.
Con—Continental M. Corp., Detroit, Mich.
D—Head & Side
H—Overhead.
HaS—Hall-Scott Motor Car Co., Berkeley, Cal.
Her—Hercules Motors Corp., Canton, Ohio.
Himico—Hinkley Motors, Inc., Detroit, Mich.
Hin—Hinkley Motors, Inc., Detroit, Mich.
H-S—Herschell-Spillman Motor Co., North Tonawanda, N. Y.
I—In Head.
Jackson—Master Motor Truck Mfg. Co., Chicago, Ill.
Kni—Yellow Sleeve Valve Eng. Works, East Moline, Ill.
L—L-Head.
Lyc—Lycoming M. Corp., Williamsport, Pa.
FP—Full Pressure to all bearings including wrist pins.
Overland—Willys-Overland Co., Toledo, O.
PC—Pressure to all crankshaft and connecting rod bearings.
PS—Pressure with splash.
SP—Circulating splash.
T—T-Head.
Wau—Waukesha M. Co., Waukesha, Wis.
Wis—Wisconsin M. Mfg. Co., Milwaukee, Wis.
Yell—Yellow Sleeve V. E. Works, E. Moline, Ill.
X—Sleeve.

Governor:

Con—Continental M. Corp., Detroit, Mich.
Dup—Eisemann Magneto Corp., New York.
Han—Handy Gov. Co., Detroit, Mich.
Hin—Hinkley Motors, Inc., Detroit, Mich.
K. P.—K. P. Products Co., New York, N. Y.
McK—E. R. Klemm, Chicago, Ill.
Mon—Monarch Gov. Co., Detroit, Mich.
Non—Not Supplied.
Pha—Pharo Mfg. Co., Bethlehem, Pa.
Pie—Pierce Governor Co., Anderson, Ind.
Sim—Eisemann Magneto Corp., New York.
Wau—Waukesha M. Co., Waukesha, Wis.

Radiator:

Bus—Bush Mfg. Co., Hartford, Conn.
Chi—Chicago Mfg. Co., Chicago, Ill.
E-M—English & Mersick Co., New Haven, Conn.
Fed—Fedders Mfg. Co., Buffalo, N. Y.
Fle—Flexo Mfg. Co., Los Angeles, Cal.
G&O—G. & O. Mfg. Co., New Haven, Conn.
Har—Harrison Rad. Corp., Lockport, N. Y.
Idl—Ideal Sheet Metal Works, Chicago, Ill.
Liv—Livingston Rad. Corp., Plainfield, N. J.
Lon—Long Mfg. Co., Detroit, Mich.
McC—McCord Rad. & Mfg. Co., Detroit, Mich.
Mod—Modine Mfg. Co., Racine, Wis.
Per—Racine Radiator Co., Racine, Wis.
R-T—Rome-Turney Rad. Co., Rome, N. Y.
Spa—Sparks-Withington Co., Jackson, Mich.
Stn—Standard Radiator Co., Inc., Springville, N. Y.
U. S.—U. S. Cartridge Co., Lowell, Mass.

Fuel System:

B.B.—Penberthy Injector Co., Detroit.
Car—Carter Carburetor Co., St. Louis, Mo.
Ens—Ensign Car. Co., Los Angeles, Cal.
G—Gravity.
Hol—Holley Carburetor Co., Detroit, Mich.
Joh—Johnson Co., Detroit, Mich.
Mar—Marvel Carburetor Co., Flint, Mich.
P—Pressure.
Ray—Beneke Mfg. Co., Chicago, Ill.
Sch—Wheeler Schebler Carburetor Co., Indianapolis, Ind.
Ste—Detroit Lubricator Co., Detroit, Mich.
Str—Stromberg Motor Devices Co., Chicago, Ill.
Til—Tillotson Mfg. Co., Toledo, Ohio.
V—Vacuum.
Zen—Zenith-Detroit Corp., Detroit, Mich.

Electrical System:

‡—Generator & Starter at Extra Cost.
†—Starter not Supplied, Generator at Extra Cost.
*—Starter at Extra Cost.
A-L—Electric Auto-Lite Corp., Toledo, O.
Alc—Cincinnati S. B. Co., Cincinnati, O.
Apo—Apolo Magneto Corp., Kingston, N. Y.
Bij—Bijur Motor Appliance Co., Hoboken, N. J.
Bos—American Bosch Magneto Co., Springfield, Mass.
Con—Connecticut Telephone & Electric Co., Meriden, Conn.
Del—Dayton Engin. Lab. Co., Dayton, Ohio.
DJ—DeJohn Elec. Corp., Poughkeepsie, N. Y.
Dyn—Owen Dyneto Corp., Syracuse, N. Y.
Eis—Eisemann Magneto Corp., New York.
Exi—Electric S. B. Co., Phila., Pa.
G&D—Gray & Davis, Boston, Mass.
Gou—Gould S. B. Co., New York.
Hob—Hobbs Battery Co., Los Angeles, Cal.
L-N—Leece-Neville Co., Cleveland, O.
N-E—North East Elec. Co., Rochester, N. Y.
Non—Not Supplied.
Pol—Prest-O-Lite Co., Indianapolis, Ind.
Rem—Remy Electric Co., Anderson, Ind.
RBo—Robert Bosch Magneto Co., New York, N. Y.
Sci—Scintilla Magneto Co., New York, N.Y.
Sim—Simms Magneto Co., E. Orange, N. J.
Spl—Splitdorf Electrical Co., Newark, N. J.
USL—U. S. Light & Heat Corp., Niagara Falls, N. Y.
Ves—Vesta Battery Corp., Chicago, Ill.
Wes—Westinghouse Elec. & Mfg. Co., Springfield, Mass.
Wil—Willard S. B. Co., Cleveland, O.

Clutch and Gearset:

*—Other ratios optional.
A—Amidships.
B & B—Borg & Beck Co., Chicago, Ill.
B-L—Brown-Lipe Gear Co., Syracuse, N. Y.
Cot—Cotta Trans. Corp., Rockford, Ill.
Cov—Covert Gear Co., Lockport, N. Y.
Det—A. J. Detlaff Co., Detroit, Mich.
D-G—Detroit Gear & Machine Co., Detroit, Mich.
Dod—Dodge Brothers Co., Detroit, Mich.
D—Disk.
Dur—Durston Gear Corp., Syracuse, N. Y.
Ful—Fuller & Sons Mfg. Co., Kalamazoo, Mich.
H-S—Hele-Shaw, Merchant & Evans Co., Philadelphia, Pa.
Hoo—Hoosier Clutch Co., Muncie, Ind.
J—Unit with Jackshaft.
K—Cone.
Lon—Long Mfg. Co., Detroit, Mich.
M-E—Merchant & Evans Co., Phila., Pa.
M. M.—Mechanics Mach. Co., Rockford, Ill.
Mun—Muncie Gear Works, Muncie, Ind.
O—Disk in Oil.
P—Plate.
R—Rear Axle.
S—Separate Unit.
U—Unit with Engine.
W-G—Warner Gear Co., Muncie, Ind.

Universal:

B.G.—Universal Machine Co., Bowling Green, Ohio.
Blo—Blood-Bros. Mach. Co., Allegan, Mich.
Det—Universal Products Co., Detroit, Mich.
Har—Spicer Mfg. Co., S. Plainfield, N. J.
M-E—Merchant & Evans Co., Phila., Pa.
M. M.—Mechanics Machine Co., Rockford, Ill.
Pet—Cleveland Universal Parts Co., Cleveland, Ohio.
Pic—Carl Pick Co., West Bend, Wis.
Sne—Spicer Mfg. Corp., S. Plainfield, N. J.
Spi—Spicer Mfg. Corp., S. Plainfield, N. J.
The—Thermoid Rubber Co., Trenton, N. J.
Thei—Universal Drive Shaft Co., Cleveland, Ohio.
U-M—Universal Machine Co., Bowling Green, Ohio.
U-P—Universal Products Co., Detroit, Mich.

Front and Rear Axles:

½—Semi-Floating.
¾—Three-Quarter Floating.
Cla—Clark Equip. Co., Buchanan, Mich.
Col—Columbia Axle Co., Cleveland, O.
Con—Continental Axle Co., Edgerton, Wis.
C—Chain.
B—Straight Bevel.
D—Dead.
Eat—Eaton Axle Co., Cleveland, Ohio.
F—Floating.
I—Internal Gear.
P—Spur Gear.
R—Double Reduction.
Rus—Russel Motor Axle Co., Detroit, Mich.
S—Spiral Bevel.
Sal—Salisbury Axle Co., Jamestown, N. Y.
She—Sheldon Axle & Spring Co., Wilkes-Barre, Pa.
Shu—Shuler Axle Co., Inc., Louisville, Ky.
Std—Standard Parts Co., Cleveland, O.
Tim—Timken Det. Axle Co., Detroit, Mich.
Tor—Eaton Axle & Spring Co., Cleveland, Ohio.
Vul—Vulcan Motor Axle Co.
Wal—Walker Axle Co., Chicago, Ill.
W—Worm.
Wis—Wisconsin Parts Co., Oshkosh, Wis.

Brake:

A—Rear Wheels only.
B—Drive Shaft and Rear Wheels.
C—Front and Rear Wheel.
D—Jackshaft and Rear Wheels.
E—4 Wheel Brakes.

Springs:

Amc—American Autoparts Co., Detroit, Mich.
Arm—General Motors Co., Pontiac, Mich.
Bea—Beans Spring Co., Inc., Massillon, O.
Bet—Betts Bros. Sp. Co., Inc., San Francisco, Cal.
Cha—Champion Auto Sp. Co., St. Louis, Mo.
Del—D. Delany & Son, Newark, N. J.
Det—Detroit Steel Prod. Co., Detroit, Mich.
G-C—Garden City Sp. Works, Chicago, Ill.
Har—Harvey Sp. & Forging Co., Racine, Wis.
Lah—Laher Auto Spring Co., Portland, Ore.
Mar—Maremont Mfg. Co., Chicago, Ill.
Mat—Mather Spring Co., Toledo, O.
Mer—E. R. Merrill Spring Co., New York.
Pen—Penn Sp. Works, Baldwinsville, N. Y.
Per—Eaton Bum. & Sp. Co., Cleveland, O.
Row—William & Harvey Rowland, Phila, Pa.
She—Sheldon Axle & Sp. Co., Wilkes-Barre, Pa.
S. P.—Spring Perch Co., Stratford, Conn.
S. S.—Standard Steel Sp. Co., Coraopolis, Pa.
Tut—Tuthill Sp. Co., Chicago, Ill.
U. S.—United States Sp. Co., Los Angeles, Cal.

Steering Gear:

CAS—C. A. S. Products Co., Columbus, O.
Dod—Dodge Bros. Co., Detroit, Mich.
Gem—Gemmer Mfg. Co., Detroit, Mich.
Han—Hannum Mfg. Co., Milwaukee, Wis.
Jac—Saginaw Products Co., Saginaw, Mich.
Lav—Hannum Mfg. Co.
Ros—Ross Gear & Tool Co., Lafayette, Ind.
Woh—Wohlrab Gear Co., Racine, Wis.

Wheels:

Arc—Archibald Wheel Co., Lawrence, Mass.
A-W—Auto Wheel Co., Lansing, Mich.
Bet—Bethlehem Steel Co., Bethlehem, Pa.
Bim—Bimel Spoke & Auto Wheel Co., Portland, Ind.
Bud—Budd Wheel Co., Phila., Pa.
Cla—Clark Equip. Co., Buchanan, Mich.
Day—Dayton Automotive Wheel Co., Dayton, Ohio.
Dis—Motor Wheel Corp., Lansing, Mich.
Hay—Hayes Wheel Co., Jackson, Mich.
Hoo—Hoopes, Bro. & Darlington, Inc., West Chester, Pa.
Ind—Indestructible Wheel Co., Lebanon, Ind.
Int—Interstate Foundry Co., Chicago, Ill
Jon—Phineas, Jones & Co., Hillside, N. J.
Kel—Kelsey Wheel Co., Detroit, Mich.
M-M—Michigan Malleable Iron Co., Detroit.
Mot—Motor Wheel Corp., Lansing, Mich.
Mun—Muncie Wheel Co., Muncie, Ind.
Nor—Northern Wheel Corp., Alma, Mich.
Pru—Prudden Wheel Co., Lansing, Mich.
Roy—Royer Wheel Co., Aurora, Ind.
Sch—St. Marys Wheel & Spoke Co., St. Marys, O.
Smi—Smith Wheel, Inc., Syracuse, N. Y.
StM—St. Marys Wheel Co., St. Marys, O.
Std—Standard Wheel Co., Terre Haute, Ind.
Van—Van Wheel Corp., Oneida, N. Y.
Way—Wayne Wheel Co., Newark, N. Y.

Rim Equipment:

Fir—Firestone Steel Prod. Co., Akron, O.
Gdy—Goodyear Tire & Rub. Co., Akron, O.
Hay—Hayes Wheel Co., Jackson, Mich.
Jax—Jaxon Steel Prod. Co., Jackson, Mich.
Kel—Kelsey Wheel Co., Detroit, Mich.
Non—None Supplied.

Electric Commercial Cars

Name and Model Number	Total Weight Resting on Four Tires	Chassis Weight—Exclusive of Battery	Minimum Load Capacity	Maximum Load Capacity	Chassis Price	Maximum Speed	Location of Battery	Mileage Per Charge	Motor	Controller	Speeds Forward	Drive	Rear Axle	Springs	Front Tires	Rear Tires	Steering Gear	Wheelbase	Per Cent of Weight on Rear Wheels
Autocar E 1F	10000	3650	.....	.....	2400	.....	A	.....	G-E	G-E	5	R	Own	Row	34x4	34x5	Ross	107	60
Autocar E 2D	15000	4300	.....	.....	2800	.....	A	.....	G-E	G-E	5	R	Own	Row	34x5	34x6	Ross	120	60
Autocar E 3H	18000	4900	.....	.....	3200	.....	A	.....	G-E	G-E	5	R	Own	Row	34x5	36x8	Ross	131	60
Autocar E 4Y	26000	6800	.....	.....	4000	.....	A	.....	G-E	G-E	5	R	Own	Row	34x6	36x6§	Ross	138	60
Autocar E 5M	30000	7200	.....	.....	4300	.....	A	.....	G-E	G-E	5	R	Own	Row	36x7	36x7§	Ross	138	60
C-T -H1	5600	2400	.....	.....	.....	14	A	55	G-E	Own	4	Own	F	Shel	36x3½	36x4	W	108	67
C-T F-1.5	6600	2800	.....	.....	.....	14	A	60	G-E	Own	4	Own	F	Shel	36x3½	36x4	W	94	67
C-T H-1.5	6600	2800	.....	.....	.....	14	A	60	G-E	Own	4	Own	F	Shel	36x3½	36x4	W	116	67
C-T F-2	8000	3100	.....	.....	.....	14	A	50	G-E	Own	4	Own	F	Shel	36x3½	36x5	W	96	67
C-T H-2	8000	3100	.....	.....	.....	14	A	50	G-E	Own	4	Own	F	Shel	36x3½	36x5	W	124	67
C-T F-4	11950	4200	.....	.....	.....	12	A	50	G-E	Own	4	Own	F	Shel	36x4	36x4†	W	116	67
C-T A-7	17700	5800	.....	.....	.....	11	A	45	G-E	Own	4	I	D	Shel	36x6	36x4†	W	122	58
C-T F-7	17900	6000	.....	.....	.....	11	A	45	G-E	Own	4	Own	F	Shel	36x5	36x5†	W	136	67
C-T A-10	22250	6500	.....	.....	.....	10	A	45	G-E	Own	4	I	D	Shel	36x7	36x5†	W	132	58
C-T F-10	22750	7000	.....	.....	.....	10	A	45	G-E	Own	4	Own	F	Shel	36x6	36x6†	W	152	67
Kelland AT	.....	1950	1000	1500	.....	15	S	50	G-E	G-E	4	R	Flot	Mer	34x3	34x3	Ross	102	60
Kelland BT	.....	2050	1500	2000	.....	15	S	50	G-E	G-E	4	R	Flot	Mer	34x3½	34x3½	Ross	102	60
Kelland CT	.....	2150	2000	2500	.....	15	S	50	G-E	G-E	4	R	Flot	Mer	34x3½	34x4	Ross	102	60
Kelland AH	.....	2500	1000	1500	.....	15	A	45	G-E	G-E	4	C	D	Mer	36x3	36x3	Hin	106	60
Kelland BH	.....	2600	1500	2000	.....	15	A	45	G-E	G-E	4	C	D	Mer	36x3½	36x3½	Hin	106	60
Kelland CH	.....	2700	2000	2500	.....	15	A	45	G-E	G-E	4	C	D	Mer	36x3½	36x4	Hin	106	60
Kelland ATS	.....	2200	1000	1500	.....	15	H&S	50	G-E	G-E	4	R	Flot	Mer	34x3	34x3	Ross	102	60
Kelland BTS	.....	2300	1500	2000	.....	15	H&S	50	G-E	G-E	4	R	Flot	Mer	34x3½	34x3½	Ross	102	60
Kelland CTS	.....	2400	2000	2500	.....	15	H&S	50	G-E	G-E	4	R	Flot	Mer	34x3½	34x4	Ross	102	60
Lansden Century	.....	1700	.....	1250	1600	15	S	60	G-E	Own	4	R	Flot	SP	32x4½	32x4½	Ross	108	50
Lansden Century	.....	1950	.....	2000	1850	15	S	60	G-E	Own	4	R	Flot	SP	33x5	33x5	Ross	112	50
Lansden Marathon	.....	2900	.....	2000	1850	14	A	50	G-E	Own	4	C	D	SP	36x3½	36x4	Bay	108	60
Lansden Marathon	.....	4400	.....	4000	2250	13	A	50	G-E	Own	4	C	D	SP	36x4	36x3½†	Bay	120	60
Lansden Marathon	.....	5700	.....	7000	2950	11	A	45	G-E	Own	4	C	D	SP	36x5	36x5†	Bay	133	60
Lansden Marathon	.....	7500	.....	10000	3350	10	A	40	G-E	Own	4	C	D	SP	36x6	36x6†	Bay	146	60
O. B–B	.....	.....	.....	.....	.....	13	.....	.....	G-E	Own	...	C	D	.....	36x4	36x3½†	Own	107	.....
O. B–C	.....	.....	.....	.....	.....	11	.....	.....	G-E	Own	...	C	D	.....	36x5	36x4 †	Own	135	.....
O. B–D	.....	.....	.....	.....	.....	10	.....	.....	G-E	Own	...	C	D	.....	36x6	36x5 †	Own	143	.....
Steinmetz 15	6800	2200	1000	2250	1800	18	H&S	60	Own	Own	4	R	Own	Lig	32x4½*	32x4½*	Lav	114	55
Walker 12	.....	1900	.....	1000	.....	15	H&S	50	G-E	Own	4	.....	Tim	Det	32x3	32x3½	Ross	104	66
Walker 15	.....	2800	.....	1500	.....	14	A	50	West	West	5	Own	Own	Math	34x3	36x3½	Ross	94	66
Walker 22	.....	3000	.....	2000	.....	13	A	50	West	West	5	Own	Own	Math	34x3½	36x4	Ross	101	66
Walker 42	.....	4200	.....	4000	.....	13	A	50	West	West	5	Own	Own	Math	36x4	36x6	Ross	114	66
Walker P	.....	6000	.....	7000	.....	11	A	40	West	West	5	Own	Own	Math	36x5	38x5†	Ross	131	66
Walker N	.....	6700	.....	10000	.....	10	A	40	West	West	5	Own	Own	Math	36x6	38x6†	Ross	141	66
Walter HD	6800	2300	.....	2000	2200	16	A	60	Diehl	G-E	5	B	.....	.....	32x3½	32x4	Ross	98	60
Walter EN	13200	4400	.....	5000	3100	15	A	50	G-E	G-E	5	Own	D	.....	36x4	36x7	Gem	114	60
Walter EL	16800	5000	.....	7000	3700	13½	A	50	G-E	G-E	5	Own	D	.....	36x5	36x4	Gem	132	60
Walter ES	23600	7200	.....	11000	4500	12	A	50	G-E	G-E	5	Own	D	.....	36x6	40x6	Ross	150	70
Walter ER	28400	7500	.....	15000	4800	11	A	50	G-E	G-E	5	Own	D	.....	36x7	40x7	Ross	150	70
Ward A211	4650	1800	600	1150	.....	15	S	75	G-E	Own	4	W	Shel	Shel	32x3	32x3½	Own	88	56
Ward B-222	6000	2300	1020	1700	.....	14	S	84	G-E	Own	4	W	Shel	Shel	32x3½	32x4	Own	91	62
Ward C-211	8000	2670	2170	2880	.....	13	S	65	G-E	Own	4	W	Shel	Shel	32x3½	34x5	Own	96	64
Ward E-211	12000	3570	4290	5430	.....	12½	S	56½	G-E	Own	4	W	Shel	Shel	34x4	36x6	Own	108	65
Ward G-211	16000	4500	6180	7760	.....	11	S	44	G-E	Own	5	W	Shel	Shel	36x5	36x8	Own	120	68
Ward J-211	22500	6630	9500	11200	.....	10	S	39½	G-E	Own	5	W	Shel	Shel	36x6	36x10	Own	136	70
Ward M-211	30000	8430	13780	15920	.....	9	S	36	G-E	Own	5	W	Shel	Shel	36x7	36x7†	Own	152	71

NOTE: Battery Equipment on all above makes is at the option of the purchaser. Battery Location Abbreviations: A-amidships; H-under hood; and S-under seat

Indiana Issued 265 Certificates

A report of the Indiana Public Service Commission on the certificates of convenience and necessity, issued to Indiana bus and truck operators since the new truck and bus law went in effect six months ago, shows that 265 certificates have been issued to bus companies and operators, of which about forty-five are for city lines in various parts of the State. Certificates to truck lines, practically all of them inter-city lines, number eighty-six, while seventy certificates were issued for both passenger and property transportation, some of these latter were applied for by bus concerns which are not yet actively in the truck or property transportation business. The figures given are of the motor transportation concerns in operation Oct 1. Other certificates had been issued, but some were revoked for cause by the commission.

Further conflict between the certified carriers and the commission is anticipated because of the reaction against one of the rules of the commission which recently went into effect. The commission has ruled that each motor carrier operating under a certificate must set aside each month 2½ per cent of the original cost of the motor vehicles as a depreciation fund. This fund must be carried intact and the accountants of the commission have been examining the books of the motor transportation companies and find that about half of those which have been examined so far are not putting this depreciation fund aside. The commission has notified those firms to appear and show cause why their permits should not be revoked. At this writing only forty of the 351 concerns have been examined in this respect and twenty had no such accounts set up. Some claim the depreciation fund is excessive and not based on income or mileage as it should be. A considerable controversy and possible court action is expected by some.

A general movement to increased bus fares is expected soon, for the operators are finding rates too low in view of heavy insurance which the commission demands, the depreciation fund and other costs.

Revised Traffic Maps

New Atlas of Traffic Maps, prepared by Wayne E. Butterbaugh, published by LaSalle Extension University, and announced as just off the press, has been greatly revised and enlarged since the publication of the first 1925 edition. It now contains 86 maps. These include 52 railroad system maps, comprising every large and important railroad in the United States and Canada. Maps of representative terminal and belt railroads also are to be found. All information pertaining to traffic arteries brought up to date in accordance with the most recent changes.

The Express map has been revised to show recent changes; the Air Route map has been brought up to date. The Southern Freight Association map is revised and accurate; and the Railroad Consolidation map is complete in all details. The revised edition contains 29 more maps than its predecessor and greatly enlarged schedules of information accompany many of the maps.

Legal Aspects

A Question of "Unfair Competition"

"Yes—your prices are all right, and I'll buy from you if you'll agree not to sell to the garage man across the street," the local garage man agreed.

"No, I can't do that," the wholesaler averred, "and more than that, your refusal to buy from me except on those conditions is 'unfair competition' and you're laying yourself liable to prosecution under the Federal Trade Law."

"Well, I'll take my chances on that."

And the garage man was quite safe, as the United States Circuit Court of Appeals in a case reported in 280 Fed. 529 has ruled that the refusal of A to buy goods from B unless B will agree not to sell to C, is not "unfair competition" within the meaning of the law.

"A buyer has the right to select any particular merchandise which he wishes to buy and to select the person from whom he wishes to buy. He has the right to do this for any reason satisfactory to him, or for no reason at all," said the Court of Appeals.

Watch Your Order Blanks

"What's your best price on that?" the garage man queried.

"Twenty-two and a half cents, and you won't be able to get it at that price very long," the salesman assured him.

"We'll take 50 one-hundred-pound boxes."

"You're wise," the salesman agreed, and filled out the usual blank for 50 boxes, put "22.50" in the price column, handed over the so-called "confirmation," and the buyer signed the seller's copy.

"You'll never be sorry," the saleman averred.

The garage man was sorry, however, several times over—the article in question went down to 8c per pound, and the garage man refused to accept at 22½.

"We'll sue for damage," the seller threatened.

"Sue away," the garage man retorted, "and we'll defend on the ground that the Sales Law in force in this state says that a sale over a certain amount's got to be in writing."

"But we've got the sales slip signed by you."

"I don't deny that, but the law means that the whole contract must be in writing, and that slip don't show what the price is, nor how many pounds there are in a box. It's just '22.50,' and that might be anything at all."

In a recent case along this line, Franklin vs. Howell, 113 Atlantic Reporter, 109 the Supreme Court of Pennsylvania decided in favor of the buyer, and held that such a confirmation slip was not sufficient to comply with the law, on the ground that it did not show the price per pound nor the number of pounds per box.

The Chattel Mortgage

The garage man had insured his stock, gave a chattel mortgage thereon, did not notify the insurance company, the stock burned, and the company refused to pay.

"The policy says that it shall be void if the stock should be covered by a chattel mortgage," the company pointed out.

"Yes, but the chattel mortgage calls for a rate of interest that is usurious according to our state law. That makes the mortgage void, and a void mortgage can't make the policy void," the garage man's lawyer contended.

The New York Court of Appeals (in 128 N. E. 160), however, ruled against the garage man.

"We may assume that the chattel mortgage is void as matter of law. It may, if enforcement is resisted, lack legal efficacy, but it exists as a fact and has moral efficacy in point of fact. The reason for requiring knowledge or notice of the chattel mortgage is the same as the reason for requiring knowledge of other insurance. The facts relating to both are important to the insurance companies as bearing on the risk assumed. Property incumbered by a chattel mortgage may cease to be good moral risk. That the necessities or the ignorance of the insured have forced him into the hands of the usurer does not make the information sought a matter of indifference to the insurer, but rather the contrary."

The Banker's "Lien"

If a garage man has a deposit account with a bank, and owes the bank a note, the bank may, as a rule, apply the deposit to wipe out the note, under the "banker's lien."

Suppose, however, that A and B are partners in the garage business, have a bank account in the partnership name, owe the bank a partnership debt, A has a deposit account in his own name, and the bank applies A's account to the partnership debt.

"I admit you can 'switch' my personal account, but only on my personal debt," A contends, and the Supreme Court of Alabama (in a case reported in 94, Southern Reporter, 109), has ruled in A's favor.

"It is well understood and, of course, conceded, that, in the absence of statutory provision to the contrary, partnership contracts are joint and not several, and that under the common law the liability of partners are so treated. It is also a well recognized principle that, in order to establish a set-off, the cross-demands must be mutual, that is, due from one party to the other in the same right. Therefore, it has been declared that set-off of a partner's individual debt is void against a partnership demand."

New United Motors Model 20 1¼ Ton Chassis

THE United Motors Products Company Grand Rapids, Mich., just announced a new model. It is designated as the model 20 and has a rated capacity of 1¼ ton.

Power is furnished by a 4 x 5, L-head, 4-cylinder, detachable head engine with an actual horsepower ability of 30 at 1000 r. p. m. Force feed lubrication is furnished by a gear pump located in the sump of the crankcase. Cooling is accomplished by thermo-syphon water circulation through a United heavy pressed steel shell radiator with removable tanks and core. This radiator is mounted on springs to reduce vibration and road shock.

Electrical equipment includes either the American Bosch or Auto-Lite for starting and lighting and a Willard battery for ignition. The generator and starting motor are separate units.

Gasoline is fed from a 15-gal. tank mounted under the driver's seat to an improved double venturi fixed jet type Zenith, with idle adjustment equipped with hot air intake from manifold stove.

The engine is mounted in unit with the clutch and transmission. Both of the latter units are made by Brown-Lipe. The gearset provides three speeds forward and one reverse with ratios as follows: Low, 3.34 to 1; second, 1.65 to 1; high, 1 to 1; reverse, 4.17 to 1. The clutch is a multiple dry disk type.

From the transmission power is carried back through a single 2 in. tubular steel propellor shaft equipped with universal joints at both ends. Final drive is provided by a Clark semi-floating bevel-gear rear axle with a gear ratio of 5.1 to 1. The front axle is of the conventional I-beam construction. The spindles are mounted on hardened steel washers to insure easy steering.

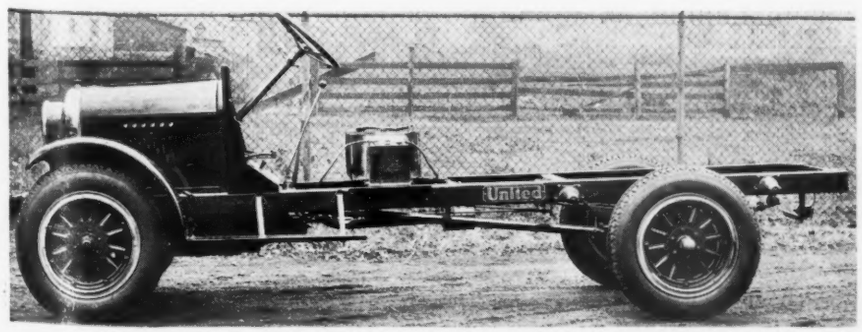
Four semi-elliptic springs support the 190½ x 32 in. frame. The frame channel is 5 in. deep, has a 2¾ in. flange and is of 3/16 in. stock. The 6-leaf front springs measure 2¼ x 39¾; rear 10 plates, 2¼ x 46¾. They are provided with removable bronze bushings in eyes.

Both brakes are located on the rear wheels and both are of the internal expanding type. They contact on a 15½ in. dia. drum with 2 in. face. Both the service and emergency brakes are actuated through an equalizer mechanism to insure equal braking on both wheels. Adjustment is accomplished by a wing nut located on the cross shaft lever, there being one adjustment for each brake. The steering gear is of the latest type Lavine, which provides accessible adjustment for wear.

Pneumatics are used throughout, 30 x 5. Barrel type head lights with legal lenses are used, together with a combination tail light with license bracket.

Standard equipment includes tools, jacks and pressure oil gun.

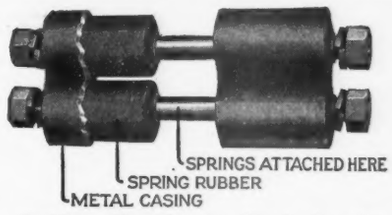
Wheelbase is 130 in. and tread 56 in. front and rear.



New 130-in. wheelbase United Motors model

Powell Rubber Shackles

Powell rubber shackles, designed for Ford chassis, are made so that all of the weight rests on bolts that go through 16 rubber bushings. Their use is claimed



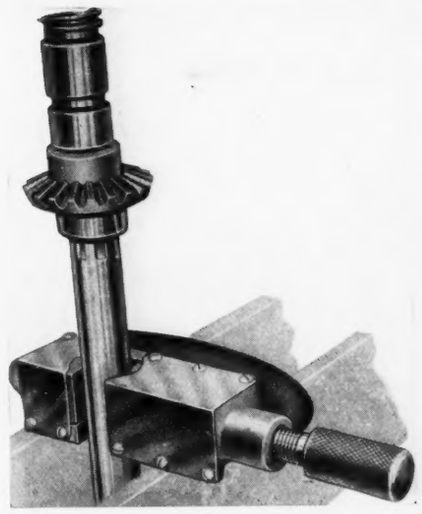
Rubber Shackle for Ford chassis

to eliminate all of the road pounding incident to the Ford. Rebound is also absorbed.

Attachment is simple. Remove the metal shackle bolts and slip the Powell Rubber Shackles in their place. When you have placed them on both ends of the spring screw up the nuts tight, and the car is ready to drive. On the rear end a special perch is furnished ⅞ in. higher. Price, $17.50 per set of four. Manufactured by the Powell Rubber Bushing Co., Utica, N. Y.

Weaver Pressure Vise

The weaver pressure vise is designed to be used on weaver forcing presses and similar presses to rigidly support shafts for removing and mounting gears, sleeves, etc. Accommodates shafts from



Vise for supporting shafts

⅝ to 2-1/16 in. in diam. It is especially useful for handling Ford axle and drive shafts, for which two special pressure blocks are supplied. Work is quickly inserted and immediately released. Toggle construction makes jaws grip work tighter as pressure on work is increased.

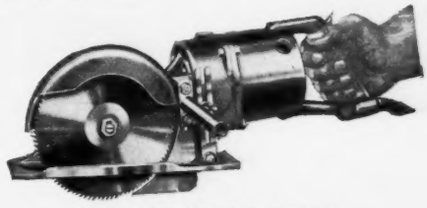
Skilsaw

The Michel Electric Hand Saw Co., 1801 Berenice Ave., Chicago, Ill., has solved the cutting problem when it introduced the Skilsaw. This tool is a portable electric circular saw and its use is claimed to eliminate unnecessary and constant handling of material in any service where a hand saw is required.

This saw, which is designated as model E, is designed for ripping and cross cutting 1 and 2 in. lumber which has a maximum cutting capacity of 2¼ in. in thickness. The front guide which directs the cut as may be observed from the accompanying illustration is adjustable for cutting or grooving to any desired depth.

The body is made of No. 12 gauge aluminum which is partly responsible for its light weight of 19 lbs. All parts are interchangeable. Speed is reduced by a specially designed worm and gear. Shafts are mounted on ball bearings and the armature and fan are dynamically balanced. Power is furnished by a Universal type motor made for 110 volts D. C., A. C. 60 cycle or less; also 220 volts D. C., A. C. 60 cycles or less. It is air cooled by forced ventilation and is operated by a momentary trigger switch.

Standard equipment includes two 8 in. combination rip and cut off saws, 15 ft. extension cord, lubricant, wrench and carrying case.

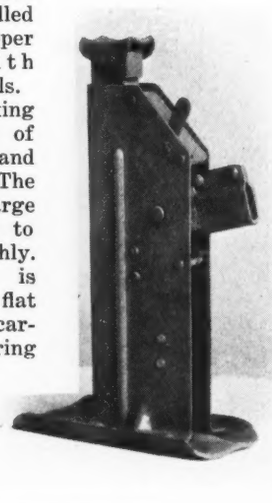


How the Skilsaw is Used

Ajax Jack for Lighter Trucks

Model 5, the new truck jack designed by the Ajax Auto Parts Co., Racine, Wis., for Fords, Chevrolets and all light trucks was just announced. The body and base are made of heavy gage steel reinforced with ribs. The rack is of rolled bar-steel, with the teeth accurately milled to give proper contact with operating pawls.

The working parts consist of two pawls and one spring. The pawls are large and designed to operate smoothly. The spring is made from a flat strip of high-carbon watch-spring steel.



Ajax truck jack

New Inserted Tooth Saw and Groover

The Disston Ideal Saw and Groover, manufactured by Henry Disston & Sons, Inc., is an improved saw in which the inserted tooth principle is employed for the production of grooving, molding, heading, tenoning, etc. The teeth, of special high-speed tool steel, are locked in sockets arranged spirally in the blade and any tooth can be inserted or removed in a moment. Teeth may be had with any form of cutting edge, so that by choosing the proper tooth any desired shape or size of groove or slot can be cut. This enables the user to build up a saw for his special requirements or the work in hand and to change it at will.

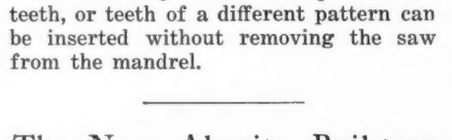
The teeth are set in the blade to provide clearance without swaging or setting. This insures that regardless of the amount of wear they will always cut the same width groove. Wear on the teeth is compensated for by moving the teeth outward 1/16 in. or 1/32 in. A rack cut in the tooth fits a special lock and provides exact adjustment without troublesome measurements. The blade never changes in diamter as it does when an old style saw is sharpened. New teeth, or teeth of a different pattern can be inserted without removing the saw from the mandrel.

Disston's Adjustable Groover

The New Alemite Rail-type Heater

The new Bassick Manufacturing Co. Rail Type Heater, built in three models, is designed for easy and efficient installation on vehicles of all types and sizes.

The entire heating unit is installed above the floor, utilizing all the heat. When the valve, which is controlled from the instrument board, is closed, heat can not, it is stated, pass through the heater.



The Alemite heating unit is mounted above the floor

Likewise, the valve may be opened to any degree, supplying heat in any quantity desired.

The heating element is of drawn steel which heats up quickly. All seams are electrically welded and are carefully tested for leaks, under water, at high air pressure.

The valve is gas tight and the fit is such that it cannot jar loose. Prices are 26 in. $16.50 east, $18.00 west; 22 in. $16.00 east, $17.50 west; Ford model $15.00 east, $16.50 west.

New Curtis Catalog

THE new 1926 catalog of the Curtis Pneumatic Machinery Co., St. Louis, Mo., which has just been distributed throughout the trade is not only complete in every detail but is most attractively prepared.

The cover which is done beautifully in black and gold carries a very pertinent message. The design is very original. In the preface a brief history and description of Curtis and its products are given. 1926 represents this company's 72nd year.

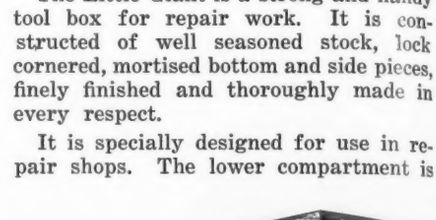
Its pages not only contain catalog information covering every necessary detail but also enlightening details as to the construction of the various units put out by the company. The many half tone illustrations lend color to the book and the cut-away views of various models of air compressors affect quick understanding as to the construction and principle of operation.

Ten Studebaker buses of the 21 passenger pay as you enter type have been added to the equipment of the West Flagler Terminal Lines in Miami, Fla. They will be used as the first unit of thirty such buses to be put into operation in Miami.

Little Giant Tool Box

The Little Giant is a strong and handy tool box for repair work. It is constructed of well seasoned stock, lock cornered, mortised bottom and side pieces, finely finished and thoroughly made in every respect.

It is specially designed for use in repair shops. The lower compartment is provided for larger tools while the sliding drawers are used to hold screws, nuts and other small parts.



Designed for the repair shop

The box is used as a seat by the workmen and rolls around easily on casters and will roll under the running board of any car. It measures 20x10x15 in. high with five drawers and lists at $3 and is made by B. B. Noyes Company, Greenfield, Mass.

Husky Self-Contained Wrench Set

The Husky Handy Ratchet set is a new and original way of carrying complete wrench equipment in a compact and convenient form.

The device consists of six sockets from ½ in. to ⅞ in. hex and one 7 in. extension slipped into the hollow handle of a 9 in. long ratchet. It is a compact and fully self-contained tool, which can be easily slipped into the side pocket of any car. Searching to find the proper wrench for fixing minor jobs is eliminated.

This tool is made of selected hardened steel. The ratchet, of durable construction reverses by means of a push-thru plug.

Six sockets in one

It is merchandised under the name, Husky No. 55 Ratchet Set. It sells at $3. Six sets are packed in a display box for dealers.

Made by the Husky Wrench Company, Milwaukee, Wis., manufacturers of Husky Common Sense Wrenches, Export office, 280 Broadway, New York City.

Booster Brake Motor Uses Engine Vacuum

The B-K Vacuum Booster Brake is manufactured by the Bragg-Kliesrath Corporation, of Long Island City, N. Y., of which Caleb Bragg and Victor Kliesrath, both well known in the automotive industry, are the founders. The development of this brake is in line with the requirement of reducing the physical effort needed to effectively apply four-wheel brakes on heavy touring cars as well as the brakes on the still heavier motor buses and trucks. The booster brake is made in different sizes to meet the requirements of all type of vehicles.

The power utilized is the vacuum which exists in the inlet manifold of the engine whenever the throttle is closed, this vacuum being made to act on a piston in a cylinder by means of the conventional brake pedal or hand lever. The booster cylinder, which is fastened to the chassis, is interposed in the brake rod between the brake pedal and the brake equalizer or cross-shaft. The piston rod is connected to the brake linkage, and the hollow valve rod is connected to the brake pedal and also with the inlet manifold through a pipe containing a check valve.

The booster cylinder is double-ended and contains a double-acting piston and a double piston cup of molded rubber, sealing against pressure in both directions. A hollow piston rod extends through both heads of the cylinder. Within the hub of the piston there are two valve chambers, each having two valve seats. Four conical valves of molded rubber are mounted on the hollow valve operating rod.

These valves are capable of sliding on the valve rod, and they are held in two pairs, with a spring between each pair, by four collars which engage their respective valves, moving them from their seats or permitting the seats to move from the valves. Whenever the valves have been fully opened, the hollow valve actuating rod engages the piston rod in such a manner that any further motion of the brake pedal will move the piston rod in either direction, without any strain on the valve mechanism.

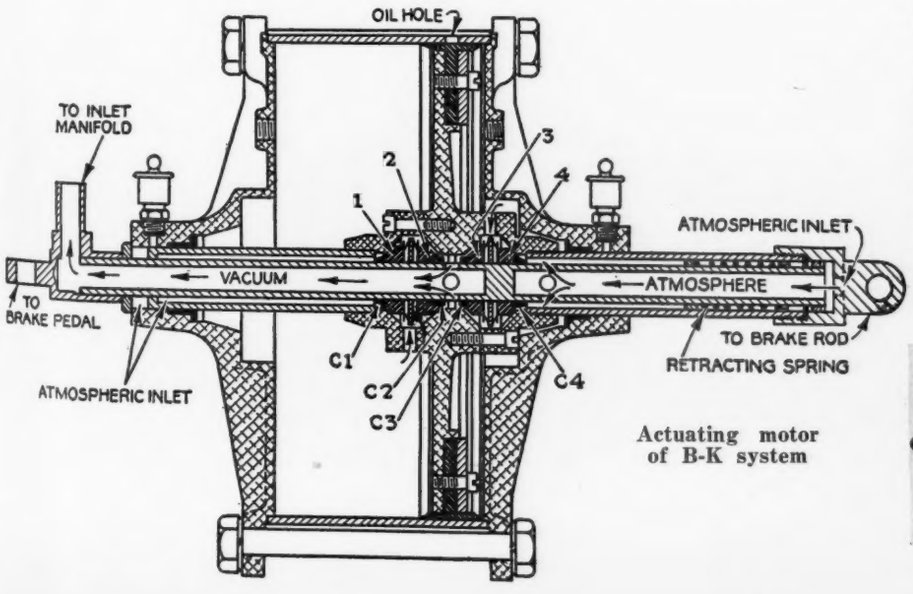
In connection with the use of the intake vacuum for the purpose of operating the booster brake cylinder, it must be borne in mind that this vacuum is greatest (about 20 inches of mercury column or about 10 pounds per square inch) when the throttle is closed, which is its normal position when the brakes are to be applied. However, by means of a check valve, the brake cylinder is kept under vacuum on both sides of the piston at all times, and when it is desired to brake, one end of the cylinder is placed in communication with the atmosphere, while the other end remains in communication with the intake manifold.

In the longitudinal section reproduced herewith, 1 and 4 are the valves which control communication between the ends of the cylinder and the atmosphere, while 2 and 3 are the valves which control communication between the ends of the cylinder and suction in the inlet manifold. It will be seen that the suction chamber, located between valves 2 and 3, is in communication with the inlet manifold through the hollow valve operating rod and that atmospheric air can pass between the hollow piston rod and the hollow valve rod to the atmospheric valves 1 and 4.

Valve collars C1, C2, C3 and C4, which control the relation between the position of the valve rod and the positions of the valves are so located on the rod that valves Nos. 2 and 3, which control the admission of the vacuum to the cylinder ends, can never be closed at the same time, nor can either of the atmospheric valves 1 and 4 be opened until the adjacent vacuum valve has been closed and vice versa.

By means of this valve arrangement it is possible to keep the whole of the brake cylinder under vacuum at all times except when the brakes are being applied. To apply the brakes, atmospheric air is admitted to the rear end of the cylinder, the excess pressure of this air above that of the partial vacuum in the other end moving the piston.

When it is desired to release the brakes, the air in the rear end of the cylinder is exhausted, thereby placing both ends of the cylinder again under vacuum and permitting the brakes to release themselves; or it is possible to admit atmospheric air to the forward end and the vacuum to the rear end of the cylinder to insure a quick release of the brakes under the power of the piston.



Actuating motor of B-K system

Bonney Wrench Kit

A wrench set consisting of three of the most popular double end wrenches, in a leatherette roll, is being placed on the market by the Bonney Forge and Tool Works, Allentown, Pa. This assortment is known as Sample Kit No. 1 and the three wrenches it contains are made of chrome vanadium steel for use on the

For increasing accessibility in repairs

following S.A.E bolts and nuts; 3/16, ¼, 5/16, ⅜, ½, and 9/16 in. These wrenches are guaranteed to strip the thread of any U.S.S. or S.A.E. nut or break the bolt before the jaws will spread. List price $2.50.

The Northeaster Horn

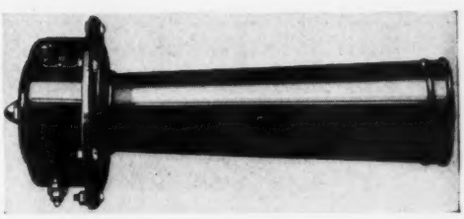
The Northeaster is a new magnetic horn of simplified design. It has a strong vibrant tone of exceptional carrying power. These qualities are secured through blending the natural or fundamental tone of the diaphragm with a higher pitched overtone. This overtone is kept exactly one octave above the fundamental which gives maximum clearness and effectiveness to the resulting tone.

In construction the number of parts is reduced to a minimum.

The contacts are of Tungsten and are of the same size and quality as for ignition. The condenser is also of the standard ignition type.

Another feature of the Northeaster is the tone adjustment. To facilitate readjusting the tone, if ever necessary, an adjusting screw is provided in the case. It is finished in baked black enamel.

This latest addition to the line of horns manufactured by the North East Electric Co., sells for $7.50.



Northeast's new magnetic horn

Get after these delivery savings!

Talk economy in delivery! Profits in 1926 are going to come as much from savings as from volume.

Now is the time to talk delivery savings.

Probably no one type—horse, gas truck or electric—is right for all routes. But get prospects to take a new look at all three of them.

Concerns that have tried all three have generally concentrated on electric trucks for the short and medium length route; Dobbin has disappeared in these concerns.

Unless executives have electric trucks they don't know the economies they offer.

The electric truck lasts two to three times as long as a good gas truck; perhaps five times as long as a cheap gas truck. Some of them are still running after 20 to 25 years of service.

On short or frequent-stop routes they cut delivery costs as much as 20% to 35%.

They have fewer moving parts than gas trucks—less repairs. They consume less fuel and cost less for tires.

They cost less for fuel than feed for horses does. Less for tires than it does for horse's shoes.

They take up less space than either stables or gas truck garages. They can even be stored and charged right at the loading platform, cutting down the investment, interest, depreciation and upkeep on land and buildings.

Their speed is limited, yet they have all the speed that can be used in city deliveries. Customers have repeatedly told us that they cover frequent-stop gas truck routes in the same or less time than the high speed gas truck.

They are in service more days than Dobbin and more days than gas trucks. It is unusual for an electric to be out of service half as many days as a gas truck, even including painting.

Electrics are clean; they are efficient. They show an air of success; they advertise business. They enable a firm to get the best possible type of driver—picked for sales ability, not for willingness to be a hostler, or for mechanical skill.

Secretary Hoover would never have had to call the National Distribution Conference if the business men of this country were getting the utmost in economy. He suggests that every business man look into his distribution figures.

Help prospects cut their delivery costs in 1926.

WARD MOTOR VEHICLE CO., MT. VERNON, N. Y.

Also Boston, Philadelphia, New York, Baltimore, St. Louis, Chicago, San Francisco

WARD ELECTRICS

-cradleless!

EDITORIALS

The Hundred Dollar Salesman

OCCASIONALLY, despairing dealers in search of really good salesmen try all kinds of weird experiments. They recruit their sales forces from the ranks of erstwhile truck users—who **should** understand the buyer and his needs—and from among salesmen who have never sold a truck before. To make a success of such venturings the sales manager must know more than a little of the psychology of selling and of the salesman.

Quite a number of dealers have made fairly good truck salesmen from sellers of other lines of merchandise, but in the choice of such men there is one factor to be recognized and allowed for. It is just this—a man who has been in the habit of selling an article at $100 or less will have very little confidence in himself when he comes to sell an article worth $5000. Just as it is difficult for a man earning $35 a week to picture himself handling $500 a week. So the $100 article salesman lets his mind get into a groove where he imagines that $100 is all that any man could be persuaded to spend at any one time.

Unfamiliarity with deals involving larger amounts cause him to fear them, and he can not believe that any firm or individual would part with such, to him, large sums. He cannot for a long time sell himself on the fact that anything, however expensive, can be sold if the prospective purchaser needs such a thing.

And so the $100 salesman is defeated before he starts, because he cannot readily sell himself on the higher standard of values.

Statistics Given a Boost

THE average business man is loath to give attention to statistics. But the National Distribution Conference holding its first meeting in Washington has recommended that the first thing necessary to the elimination of immense wastes in distribution is the "systematic collection of statistics." The dealer may well take a lesson from this. In other words the value of basic facts concerning the leading industries, the actual figures concerning each sale made, the value of local prices on used-trucks are statistics which cannot be ignored, if a profitable business is to be expected.

Time Sales Terms

ALWAYS in the struggle for greater output the sales organizations of dealers and factory branches are sorely tempted to give more and more favorable time-payment terms to purchasers. In the truck field the same conditions and principles apply as do in the automobile market. For this reason the remarks of Arthur W. Newton, vice-president of the First National Bank of Chicago, before the National Association of Finance Companies, should be of interest.

Mr. Newton said: "The question of down-payment is important, some think as much so as the terms, some think more so. It is certainly a fact that unless you have a substantial down-payment you are, on the one hand, taking from the purchaser notes that represent considerably more than the manufacturer's price for the car, and, on the other hand, if you repossess the car soon after it has been sold you stand no chance of selling it for what you have in it. The dealer who parts with a car on a small down-payment and twenty or twenty-four monthly payments may think he has sold a car, but if the finance company has recourse on him he is only renting one with an option to the buyer of ultimate purchase.

"The movement of conservatism was started by the banks primarily in the interests of themselves and the finance companies, though the banks felt it was a matter of a good deal of interest to the manufacturers and the dealers. . . . Reasonable terms are as much to the manufacturer's interest as they are to the finance companies' and a great deal more than they are to the bankers'. I think it will be admitted that no such volume of cars could have been sold as have been for a number of years past if there had not been a large number of finance companies to handle the time payments.

"Even if no such development took place, I still think that unduly liberal terms would react on the manufacturers. The tendency of liberal terms is no doubt at first to stimulate sales, particularly when times are good; but such stimulation in sales might not be an unmixed blessing. I have always understood that the object of every manufacturer is, as far as possible, to have a uniform production. He is, of course, prepared to find that his volume is not so large in dull times as it is in good, but if extravagant terms in good times have resulted in bringing an abnormal number of used cars on to the market in poor times, his volume of sales during the dull period will of course be even less than they would have been. It seems to me therefore that the manufacturer will find that it is greatly to his interest that a car bought in good times should stay sold in bad times."

The United States highways system of roads, includes 75,884 miles of road and 145 routes, each route of which has been given a number, and includes designs for standard direction and warning signs to be erected on all routes.

News of the Trade

Second Bus Show to be Held in Detroit Next Year

The Date Will Probably Be Changed to May for Greater Convenience

AT a dinner tendered to the exhibitors by the committee in charge of the National Bus Show in Detroit it was stated that the 1926 show would again be staged in Detroit. It was further disclosed that the date would in all probability be changed to some time in May. This change is to be instituted in order that the show may be more convenient to operators who this year displayed such decided interest and support.

Both visitors and exhibitors at the show stamp it emphatically as a complete success. Further proof of this is seen in the interest of show promoters in other cities. It is said that representatives of exhibit hall owners or groups in both Cleveland and New York have made bids for the next show. These however were rejected.

45,000 Trucks in Use in Iowa

Use of auto trucks is increasing rapidly throughout the state, according to officials of the motor vehicle department, who estimate that 45,000 trucks are now in daily use over Iowa roads for commercial purposes, making a total tonnage of about 80,000. W. M. Calladay, in charge of the department, said that the number of trucks is increasing on farms more rapidly than in the commercial centers as farmers come to realize the economy and service of the power unit in their field.

U. S. G. R. A. to Hold Convention June 7-12, 1926

Good Roads Show to be Held in Conjunction With Convention

THE 14th Annual Convention of the United States Good Roads Association will meet in the city of Santa Monica, Cal., June 7th to 12th, 1926. In conjunction with this convention will be held the United States Good Roads Show of Road material, machinery, trucks, tractors and automobiles. For full information in regard to same, address J. A. Rountree, Director General, Maudmont, 3200 Cliff Road, Birmingham, Ala. After February 1st, address J. A. Rountree, Director General, Miramar Hotel, Santa Monical, Cal., where temporary headquarters will be maintained until June 15th.

COMING EVENTS

SHOWS

Atlantic City, N. J., May 17 to 21, 1926—Manufacturers exhibition and 49th convention of the National Electric Light Ass'n. Young's Million Dollar Pier.

Boston, Mass., March 6 to 13, 1926—24th annual show, Mechanics Bldg. (105,000 sq. ft.), direction Boston Automobile Dealers Ass'n., Inc., and the Boston Commercial Motor Vehicle Ass'n, Inc. Passenger cars, trucks, tractors and accessories. Chester I. Campbell, Mgr., 329 Park Square Bldg.

Buffalo, N. Y., January 16 to 23, 1926—24th annual show, 174th Armory (55,000 sq. ft.), direction Buffalo Automobile Dealers Ass'n. Passenger cars, trucks, tractors and accessories. Carlton C. Proctor, Mgr., Room No. 1, Hotel Statler.

Chattanooga, Tenn., February 14 to 19, 1926—2nd annual show, Memorial Auditorium, direction dealers of Chattanooga. Passenger cars, trucks and accessories. H. S. Smith, Chairman Show Committee, 528 Broad St.

Chicago, Ill., January 11 to 15, 1926—Annual road show and convention, direction American Road Builders' Association, Coliseum and adjoining buildings.

Chicago, Ill., January 30 to February 6, 1926—26th annual show, Coliseum, direction National Automobile Chamber of Commerce. S. A. Miles, Mgr., 366 Madison Ave., New York City.

Cleveland, Ohio, January 23 to 30, 1926—25th annual show, direction the Cleveland Automobile Manufacturers and Dealers Ass'n. Passenger cars, trucks, accessories and motor boats. Herbert Buckman, Mgr., 5005 Euclid Ave.

Detroit, Mich., January 23 to 30, 1926—25th annual show, Convention Hall (200,000 sq. ft.), direction Detroit Auto Dealers Ass'n. Passenger cars, trucks, tractors, accessories, power boats and cruisers. H. H. Shuart, Mgr., Hotel Addison.

Indianapolis, Ind., February 15 to 20, 1926—15th annual show, Auto Show Bldg. (70,000 sq. ft.), direction of Indianapolis Auto Trade Ass'n. Passenger cars, trucks and accessories. John Orman, Mgr., 338 N. Delaware St.

Kansas City, Mo., February 12 to 19, 1926—20th annual show, American Royal Bldg. (250,000 sq. ft.), direction of Kansas City Motor Car Dealers Ass'n. Passenger cars, trucks, buses, tractors, accessories, aeroplanes and radio. Geo. A. Bond, Mgr., Firestone Bldg.

Milwaukee, Wis., January 9 to 17, 1926—18th annual show, Auditorium, direction of Milwaukee Automotive Dealers Ass'n. Bart J. Ruddle, Mgr., Room 319, 105 Wells St.

Minneapolis, Minn., February 6 to 13, 1926—19th annual Twin City Show, Overland Bldg. (400,000 sq. ft.), direction Minneapolis Automobile Trade Ass'n. Passenger cars, trucks, tractors, accessories, camping equipment and sportsmen's goods. H. E. Wilcox, Mgr., 1030 Marshall St., N. E.

New York City, January 9 to 16, 1926—26th annual show, Grand Central Palace, direction National Automobile Chamber of Commerce. S. A. Miles, Mgr., 366 Madison Ave.

Providence, R. I., February 6 to 13, 1926—2nd annual show, Providence Armory (80,000 sq. ft.), direction Rhode Island Automobile Dealers Ass'n. Passenger cars, trucks, accessories and perhaps radio. Chester I. Campbell, Mgr., 617 Industrial Trust Bldg.

St. Louis, Mo., February 20 to 27, 1926—19th annual show, City Market Bldg. (100,000 sq. ft.), direction St. Louis Auto Dealers Ass'n. Passenger cars, trucks, accessories and boats. Robert E. Lee, Mgr., 3124 Locust St.

San Bernadino, Cal., February 18 to 23, 1926—16th annual show, National Orange Show Bldg. (28,000 sq. ft.), direction National Orange Show Ass'n. Passenger cars, trucks, tractors and accessories. R. H. Mack, Mgr., 215 Chamber of Commerce Bldg.

San Francisco, Cal., January 30 to February 6, 1926—10th annual show, Exposition Auditorium (95,000 sq. ft.), direction the motor car dealers of San Francisco. Passenger cars, trucks, accessories and motor boats. G. A. Wahlgreen, Mgr., 215-16 Humbolt Bank Bldg.

Santa Monica, Cal., June 7 to 12, 1926—Annual convention of the of the United States Good Roads Ass'n and the Bankhead National Highway Ass'n. J. A. Rountree, Dir. Gen'l, Maudmont, 3200 Cliff Rd., Birmingham, Ala.

Scranton, Penna., January 27 to February 6, 1926—18th annual show, Armory (50,000 sq. ft.), direction Scranton Motor Trades Ass'n. Passenger cars, trucks, tractors and accessories. Hugh B. Andrew, Mgr., Board of Trade Bldg.

Syracuse, N. Y., February 8 to 13, 1926—18th annual show, direction, Syracuse Automobile Dealers Ass'n. C. H. Hayes, Mgr., Hotel Syracuse.

Toledo, Ohio, February 8 to 13, 1926—18th annual show, Civic Center Garage (47,000 sq. ft.), direction Toledo Automotive Trades Ass'n. Passenger cars, trucks and accessories. T. J. Cooper, Mgr., 925 Jefferson Ave.

Washington, D. C., January 30 to February 6, 1926—Annual show, Washington Auditorium, direction of Washington Automotive Trade Ass'n., Rudolph Jose, Chairman.

Wichita, Kansas, March 2 to 5, 1926—1st Annual Southwest Road Show and School, direction Wichita Thresher & Tractor Club, Inc., showing road building, maintaining machinery, accessories, materials and contractors equipment.

CONVENTIONS

American Road Builders' Association—Annual convention and Road Show, January 11 to 15, 1926. Coliseum and adjoining building, Chicago.

Associated Advertising Clubs of the World—Convention, June 20 to 25, 1926, Philadelphia, Pa. Carl Hunt, Mgr.

Automotive Electric Service Association and Automotive Electric Association—Joint convention, February 2 and 3, 1926, Congress Hotel, Chicago.

Illinois Automotive Trade Association—Annual meeting, February 9, 1926, Springfield.

Michigan Automotive Trade Association—6th annual meeting, January 27, 1926, Book-Cadillac Hotel, Detroit. W. D. Edenburn, Mgr., Hotel Addison.

National Automobile Chamber of Commerce—Second World Motor Trade Congress, January 11 to 13, 1926, New York City.

National Automobile Dealers Association—Annual meeting, January 11, 1926, Commodore Hotel, New York City. C. A. Vane, Mgr., 320 N. Grand Ave., St. Louis, Mo.

National Automobile Dealers Association—Annual convention, February 1 to 3, 1926, Hotel La Salle, Chicago, Ill. C. A. Vane, Mgr., 320 N. Grand Ave., St. Louis, Mo.

National Electric Light Association—49th convention and manufacturers exhibition, May 17 to 21, 1926, Young's Million Dollar Pier, Atlantic City, N. J.

North Carolina Automotive Trade Association—Annual convention, March 17 to 18, 1926, Robert E. Lee Hotel, Winston-Salem.

Omaha, Nebraska, February 22 to 27, 1926—21st annual show, Municipal Auditorium. Passenger cars, trucks and accessories. A. B. Waugh, Show Mgr., 1814 Douglas St.

Texas Automotive Dealers Association—Annual convention, May 12 and 13, 1926, Galvez Hotel, Galveston, Texas.

S. A. E.

December 17, 1925, Detroit. Meeting, General Motors Bldg. Subject, Cylinder Lapping, by factory representatives of Ford, Dodge, Packard, Hupp, Paige, Chrysler and White companies.

December 18, 1925, Chicago. Meeting, Engineers Club. Subject, High Efficiency Engines, by F. S. Duesenberg.

December 29, 1925, San Francisco. Meeting, Engineers Club. Subject, Problems of Fleet Operation, by Harold Jarvis.

January 14, 1926, New York City. Annual banquet, Hotel Astor.

January 26 to 29, 1926, Detroit. Annual meeting, General Motors Bldg.

January 27, 1926, Detroit. Carnival, Oriole Terrace.

Pacific Coast Holds Its First Big Truck Show

More Than $20,000,000 Worth of Equipment Was on Display. Complete Road Equipment Also Exhibited

ONE of the principle features of the All-Western Road Show, an exhibition of highway-building equipment, housed in five tents covering 26 acres on the Marina, San Francisco, Cal., was the tent which contained the motor truck exhibit. As the road-show was the first of its kind held west of Chicago, so the motor truck show was said to be the largest exclusively truck exhibit ever staged in this country. More than $2,000,000 worth of trucks were on display, with better than 200 individual vehicles standing under the big tent.

The transportation section of the road show has been taken over by the Motor Truck division of the Motor Car Dealers' Association of San Francisco, and recent improved conditions in truck merchandising throughout central and northern California have inspired the truck dealers to make this exhibit comparable with passenger car shows held in this section twice each year. By giving each truck more space than is usually allotted enough room has been made for the spectators to enable them to view each exhibit at length and in detail, the first time that this has been done on the Pacific Coast. The result has been that the first two days of the road show saw more visitors in the truck exhibit than ever attended any truck division of an automobile show in either San Francisco or Oakland, where the two annual shows are held.

Talks based on transportations values, costs of operation and maintenance and methods of operation and upkeep, of trucks are made morning, afternoon and evening by various dealers and their salesmen. The whole truck show is being conducted on a cooperative basis of selling more motor trucks, regardless of the make, instead of the previous system of rivalry, in which each dealer sought to use the show to the advantage of his own truck. An effort is being made to sell the motor truck industry to the public, and apparently that effort is succeeding well.

The All-Western Road Show opened on November 9 and continued through to midnight of November 14. Approximately $20,000,000 worth of road-building equipment, trucks, etc., was on exhibition, and the big social event of the week was a banquet in the Hotel Fairmont on the night of November 12. In addition to California, the States officially represented were Idaho, Utah, Nevada, Colorado, Montana, New Mexico, Wyoming, Oregon, Washington and Arizona. Representatives from all these States were in attendance and the States had headquarters at the show. Five of the leading associations affiliated with the road-building industry held their annual conventions in one of the tents at the show grounds, among them the Western Association of State Highway Officials, the Western Road Commissioners and Supervisors Association, Pacific Sand and Gravel Association, Western Contractors Association and Western Construction Equipment Dealers Association. Every modern device known to road-grading, highway-building, pavement-laying and general road construction and maintenance was on display, many of the pieces of equipment being shown at work, an entire fleet of steam shovels doing their stuff with almost human precision at one end of the 26-acre lot.

Spooner Enters Export Field

Frank Eugene Spooner, who has been associated with Chilton Class Journal Company for the past fourteen years in various editorial capacities recently resigned to engage in sales promotional work with the General Motors Export Company.

Mr. Spooner was technical editor of Motor Transport. He was thoroughly versed with the problems of the fleet operator and enters his new endeavors with a background of valuable experience. The good wishes of his many friends in the industry accompany him in his new work.

The distributing branch of the Budd Wheel Company in San Francisco has been enlarged to cover double its previous space. On December first R. J. Sheehy, manager of the branch, moved into his new quarters adjacent to 1581 Bush Street and now occupies 1583 as well.

U. S. Department of Commerce Production Figures

(Number of Machines)

	Passenger Cars			Trucks		
	1923	1924	1925	1923	1924	1925
January	228,872	293,824	212,909	20,569	30,741	28,099
February	260,336	343,460	252,785	23,352	32,910	34,334
March	327,059	357,045	332,108	36,737	36,444	45,012
April	351,649	346,405	391,301	39,759	37,948	47,664
May	358,685	286,324	382,714	45,829	35,314	43,223
June	344,026	225,079	364,806	42,568	29,067	37,890
July	303,544	244,544	357,883	31,830	26,391	39,211
August	318,888	255,232	221,756	32,311	28,647	37,643
September	302,352	263,528	272,396	29,721	31,960	60,363
October	338,485	260,881	406,569	31,612	32,475	45,823
November	288,813	204,343	.....	29,255	27,905	.....
December	279,864	182,099	.....	28,990	27,542	.....
Total	3,702,569	3,262,764	.....	392,533	377,344	.....

Dodge Buys Majority Interest in Graham Brothers

No Other Change. Graham 1925 Production 1,420 Per Cent Increase Over 1921 Production

CLARENCE DILLON, of Dillon, Read & Co., announced today that Dodge Bros., Inc., had purchased for cash a majority interest in Graham Bros. The amount of cash could not be learned. No changes in the Graham line of 1-ton and 1½-ton trucks are contemplated, but bus production will be stressed in the new combination. Graham Bros. will continue to operate as at present, with no changes in personnel. Graham trucks will continue to be sold through the Dodge dealer organization.

Frederick J. Haynes, president of Dodge Bros., Inc., has succeeded Edwin G. Wilmer as chairman of the executive committee, and Wilmer has become chairman of the board. Ray A. Graham, secretary of Graham Bros., is now also general manager of Dodge Bros., Inc., and Joe B. and Robert C. Graham, president and vice-president of the Graham concern, have become members of the Dodge board, with H. H. Springfield, vice-president in charge of financial affairs.

Graham Bros. has been operating as a Dodge division, but Dodge has had no financial interest in Graham business or participated in Graham earnings. Graham was a Dodge division to the extent that it used the Dodge power plant as standard equipment and marketed solely through Dodge dealers.

The deal merges the third largest producer of motor cars with the largest maker of 1½-ton trucks. Graham production for the first ten months of 1925 was 16,500, or an increase of 1,420 per cent over the 1,085 produced in 1921, the first year of its power plant and sales arrangement with Dodge.

Mr. Haynes pointed out that, in addition to the unlimited bus market, the opportunity for expansion of the truck business in the foreign field is tremendous. Robert C. Graham, director of the Dodge truck and commercial car division, is now in Europe developing plans for an extensive increase of the foreign market division.

Ray A. Graham confirms the report that he and his brothers have recently been large buyers of Dodge common stock and are increasing their investment. He said that they were now among the largest Dodge stockholders.

The Mahoning Bus. Co., Youngstown, Ohio., is the name of a new concern recently chartered with a capital of $10,000 to make contracts for carrying persons and property by bus. Incorporators are Edward V. Seal, John Sutton, Thomas W. Jones, Mike V. Zazo and Mike Kolmacio. The new company will be located at 38 S. Bruce Street.

Truck Standardization Given Impetus

Motor Truck Industries, Inc., Starts Plan Under Way at Washington

GOVERNMENT recognition of the motor truck standardization program that is under way by Motor Truck Industries, Inc., which met at Washington November 11 and 12, is one of the outstanding results of the convention held in that city. The two days convention at the Commerce Building, under the auspices of the Department of Commerce, and in direct connection with the Bureau of Standardization and Simplified Practice, did more than anything that has so far been accomplished to boost the movement along.

One thing is certain that those who attended this convention were surprised to learn of the immense amount of vital business information that is available and which the Government can supply but which the average business man knows nothing about.

The addresses made by the various government officials were inspiring and in the main clarified the confusion that exists in the minds of some manufacturers. In other words, some manufacturers are still of the belief that standardization will, if carried to the extreme, would perhaps materially affect their business because the identity of their product would be lost. This feeling was entirely dispelled by the time this convention closed and the various committees left the meeting with more enthusiasm than ever before, determined to work out their multitudinous problems with as much speed as possible.

An example of what effect the standardization of motor vehicles has on the large purchaser was appreciated by those who called upon Postmaster General New. He discussed the operation of the government's motor trucks in the mail service, and being an operator of some 80,000 trucks, enthusiastically endorsed the standardization movement. He expressed the thought that the government would be delighted to purchase trucks from all the different truck makers instead of from a few as the government now has to do because of the service problem.

The report of the Ratings Committee included the preparation of four specification sheets dealing with the four models that had been decided upon at the previous meeting. These specifications include returns from 24 manufacturers, all tabulated giving the resulting averages of the various dimensions. These results indicated that by a little co-operation complete standardization can be affected without affecting the individuality of any make. A great deal of information is still to be worked out by this committee and which will be distributed to the other committees as quickly as completed.

The Motor and Motor Accessories committee produced a very comprehensive report and supplied every member with a loose leaf folder with printed inserts showing all of the items which must be considered immediately and those for future consideration.

The report of the Steering Gear, Drag Links and Controls Committee showed how closely related even the steering gear can be with other units. At the present time there are 262 different dimensions in stub shaft ends.

The Axle, Wheels and Springs Committee gave a very complete report which indicated one hundred per cent co-operation. This report showed that there are over 200 different dimensions in shaft ends, besides the many differences in carrying capacities relative to solid and pneumatic tires.

Every committee came forth with a report which indicated that all are co-operating to the fullest extent. Much work is still to be accomplished and the adoption of the committee standards will be largely determined by the rating committee final report.

The reception by President Coolidge, the addresses by Secretary Hoover at the meeting, the banquet addresses by Merle Thorpe, Editor of Nations Business, and Governor Bartlett, First Assistant Postmaster General, the addresses by various members of the Department of Commerce, all contributed to the making of this convention one of the most instructive and inspiring ever held.

India Tire Sales 89% Greater

The sales of India Tire & Rubber Company, Akron, Ohio, for the first six months of 1925 were $2,220,221, or 89 per cent greater than for the corresponding time last year, according to J. M. Alderfer, president, in a letter to India stockholders.

Net profit after taxes, for six months, ending June 30th, was $314,655, which, after preferred dividends, was equivalent to $27.70 a share on the common stock.

Kelly-Springfield Truck Sale Approved

New York Group Plan Reorganization and Resumption of Production

PURCHASE of the assets of the Kelly-Springfield Motor Truck Co., for $340,000 by a New York group of men represented by H. W. Torney, Charles C. Jamieson, Edward L. White and Philip H. Farley at a public sale conducted at the plant by P. A. Lewis, special master, has been approved by Judge Frank M. Krapp.

Under their bid, the purchasers acquire the real estate, building, machinery, good will and stock of all the branches.

The new purchasers also acquired an issue of $1,800,000 bonds made by the Kelly-Springfield Motor Truck Co. from the Emerson McMillen estate and others and submitted a qualifying check for $15,000 for bidding.

The present officers of the Kelly-Springfield Motor Truck Co. are: Chairman of the board, James L. Geddes; president, A. P. Lathrop; vice-president, James Lawrence; secretary and treasurer, P. H. Diehl.

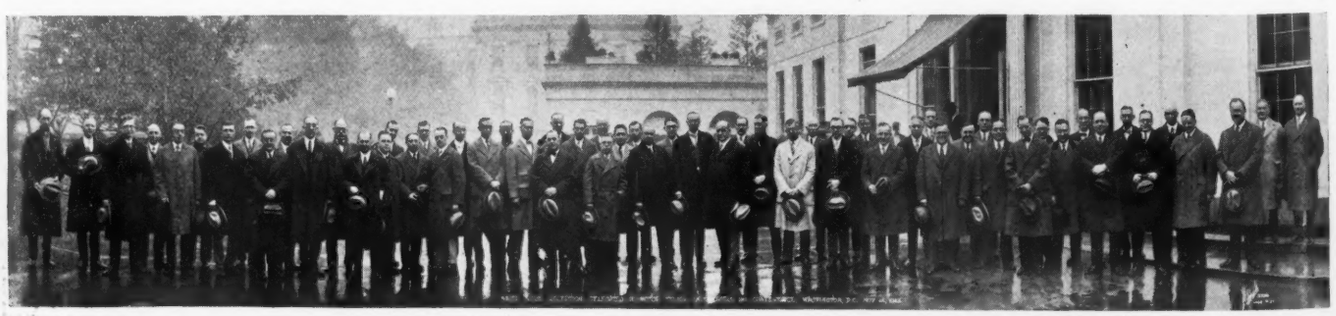
TRUCK MAKERS TO MEET DURING SHOW

A convention open to all motor truck manufacturers will be held by the N.A.C.C. at its New York headquarters on Monday, January 11th, during the week of the annual Automobile Show.

The morning meeting will be merged with the opening session of the Second World Motor Transport Congress, to be held at the Hotel Roosevelt, at which some 300 delegates are expected from all over the world.

At noon, a Motor Transport luncheon will be served at the Roosevelt, at which a discussion will take place on the use of motor vehicles in this country and abroad.

Following the luncheon, the Motor Truck Convention will assemble at N.A.C.C. headquarters, across the street from the Hotel Roosevelt. A program for this afternoon meeting will be announced later.



Members and guests of the M. T. I., Inc., after the reception by President Coolidge

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N. M. B. A. and A. A. A. Consolidate

The Way is Now Cleared for Immediate Attention to the Serious Question of Inter-State Regulation

AS a result of the agreement reached the executive committees of the American Automobile Association and the National Motor Bus Association at Detroit on November 20 to consolidate into one national organization, the way is now cleared for immediate attention to the serious question of inter-state legislation. The consolidation makes possible an unhampered and active co-operation of all bus operators of the country. Derogatory effects of divided opinion are eliminated under the new order.

The agreement signed by both committees recommends the establishment of a self-governing Bus Division which will have adequate representation on the various governing boards of the A.A.A. Tentatively the various state organizations not yet represented in any national organization are requested to affiliate with the Bus Division of the A.A.A. as it today exists. After a sufficient number have joined, representatives of the various state organizations will confer for the purpose of organizing the new Bus Division and other necessary details. Executive committee of National Motor Bus Association will represent the Bus Division in the meantime.

The consolidation is viewed with great satisfaction by members of both organizations, particularly in view of the present emergency of impending adverse legislation on the inter-state issue, which is being brought to the attention of the new Congress. It is understood that both groups will immediately work and carry out a new program which will have the unanimous approval and support of all bus operators.

Heading this program is that of proper interstate regulation of motor vehicle common carriers. The Federal excise tax removal follows next in order. Immediately upon solution of these problems, a number of other questions are in the background which, under the new united national organization, will now receive concentrated organized effort for their settlement.

Have You Tackled This Prospect?

The work done by buses in Winter when street cars have stopped running is evidence that municipal transportation affords a sales field. The field is practically untouched. An interesting example of public opinion in this respect is shown by a two to one vote by the citizens of Gloucester, Mass., proposing a ten year franchise to the Gloucester Auto Bus Company, which operates a fleet of 21 buses in that city. This was done after the city disagreed with the local street railway company. The buses earned their right to the confidence of the city as a means for transportation during one of the worst Winter storms that Gloucester ever experienced.

For four days and three nights the buses battled against the storm. The buses were equipped with plows and a force of 150 men was put out to clear a way for the vehicles to operate. During the storm a group of people from Essex were stranded in Gloucester and they were clamoring to return home. A vehicle was loaded and started for the neighboring city. At one point the car encountered a truck that had been buried in the road by snow that drifted over its top. The bus left the road and went around the truck. Return trip was made without passengers and snow had covered the track made on the trip down. But the vehicle entered Gloucester on time.

Six buses are assigned to service in Gloucester proper. Streets are narrow and winding and when street cars were operated it was practically impossible for automobiles to pass. Buses by pulling over to the side of the street when not in motion, have been found to facilitate traffic greatly. Cash fares are 10 cents with 12 tickets for $1. Passengers going into an outer zone pay 5 cents.

Authority

An engineer who had written a very interesting article on some practical improvements in his field, was asked to which publication he would send it.

He named a well recognized technical publication. He was asked why.

He said, "That publication is the recognized authority in its field, it is the only publication in which I would like to see this article published, because through that means it will come to the attention of the right man."

Instinctively this engineer recognized the influence of authority.

He desired to add the authority of the publication to the authority of his own work, in order to secure the full effect.

Advertising to the trade through the authoritative publications of the trade adds authority to the manufacturer's statements and intensifies their influence.

M. & A. M. A. Directors Disapprove Merger Plan

The proposal for a merger of the Motor and Accessory Manufacturers Association and the Automotive Equipment Association, national organizations of the automotive industry, has been disapproved by the Board of Directors of the former association. The Board has decided after long consideration of the proposed consolidation that the interests of the membership and the industry would be served best by continuance of the M. & A. M. A. as an organization of manufacturers, the A. E. A. being composed of manufacturers and general equipment jobbers.

82 Cities Make Traffic Studies

22 Municipalities Over 100,000 Lower Fatal Accident Records in First 10 Months of 1925

EIGHTY-TWO cities are making active campaigns to get complete reports on their traffic situation according to a survey by Alvan Macauley, a director of the National Automobile Chamber of Commerce. The survey is summarized in the current bulletin of the Committee as follows:

"The country is slowly making progress toward safer and more efficient traffic," says Mr. Macauley's report.

"Totals of motor fatalities for the first ten months of this year indicate a 5 per cent increase over the same period last year, but some communities fortunately have made improvements, and others have not exceeded the total of 1924.

"Twenty-two cities of more than 100,000 population have had a better record this year, and if 22 can do so there is assurance that an era of progress in this direction is at hand.

"Six active forces during the past year have assisted in holding the total down and bringing actual improvement in certain quarters. These are as follows:

Newspapers; Safety Councils and other civic bodies; Police Departments; State Highway and Motor Vehicle Departments; The National Conference on Street and Highway Safety, and Scientific studies by municipal authorities.

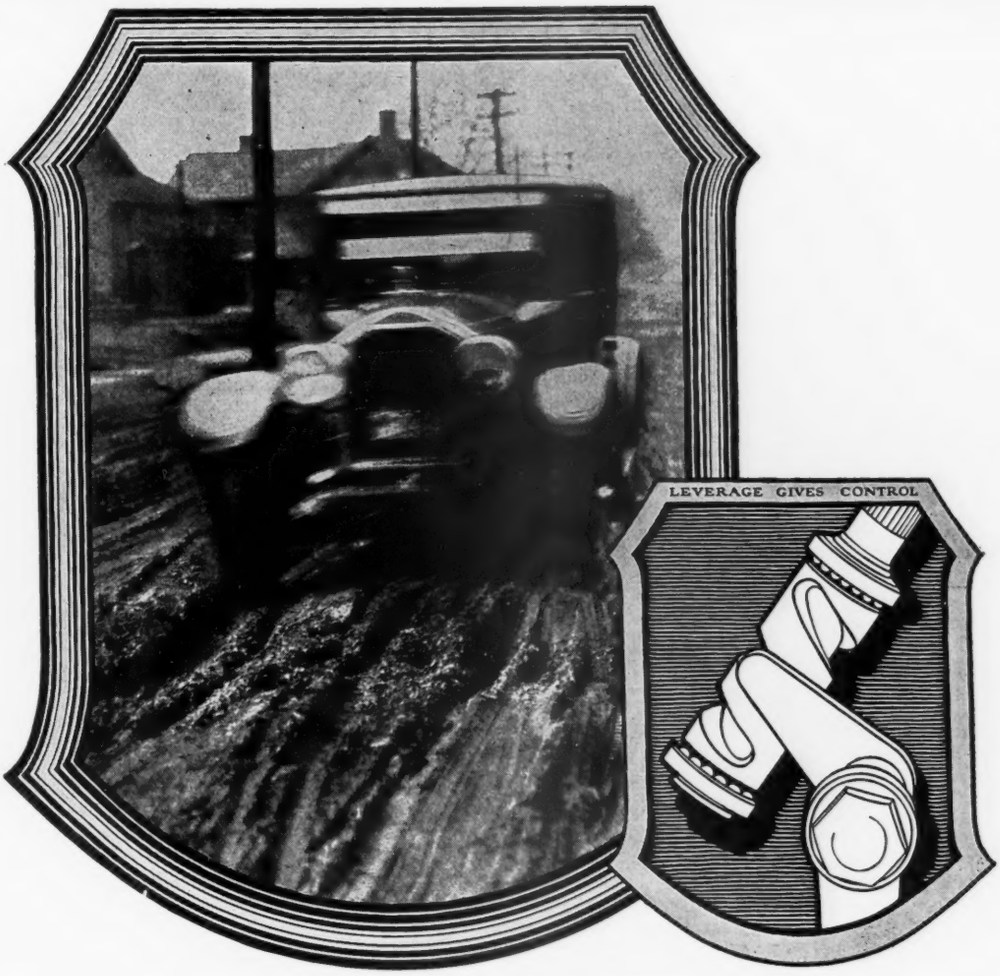
North Carolina Launches Big Bus System

The Carolina Coach Company, with an authorized capital of $2,000,000, has been chartered by North Carolina to operate bus lines from Raleigh to Greensboro, Raleigh to Rocky Mount, Raleigh to Wilson and Raleigh to Fayetteville.

The new company is the result of the purchase of all bus lines between Raleigh and Greensboro, and also the purchase of the three other lines mentioned above by Hambleton and Company, investment bankers of Baltimore.

The incorporators of the new concern are: H. A. Page, Jr., of Aberdeen, N. C.; Henry H. Jenkins, of Baltimore, treasurer of Hambleton and Company, and Major Wray T. Thorne, of Raleigh and New York, representatives of Sanderson and Porter, transportation engineers, of New York. The company will have its principal offices in Raleigh. Major Thorne will remain in Raleigh and Sanderson and Porter will have charge of operations.

Lines merged into the new company are: The Safety Coach Line, the Carolina Motor Coach Line and the Southern Transit Corporation, operating between Raleigh and Greensboro; the Golden Star Bus Line, between Raleigh and Rocky Mount; and the Safety Transit Line, between Raleigh and Fayetteville, and Raleigh and Wilson.



Taking Them *Easy!*

SLIP . . . slide . . . bump . . . jolt, in the deep frozen ruts that buffet the car from side to side. Unpleasant driving, at best! But not so wearying, nor so hazardous, as it once was, for your Ross Cam and Lever Steering Gear *checks* the incessant shock from the road—takes the punishment *you'd* get otherwise. Emergencies like this emphasize the many advantages Ross gives all the time.

At the New York Show—Space C-41 Grand Central Palace

ROSS GEAR AND TOOL COMPANY, *760 Heath Street,* Lafayette, Indiana

ROSS

CAM *and* LEVER STEERING GEARS

EASIER STEERING LESS ROAD SHOCK

400 Bus Owners Attend First Southern Convention

The first annual meeting of the Southern Bus Owners Association was held in Dallas, Texas, with 400 bus owners in attendance. The delegates came from five states and represented bus lines travelling over 40,000 miles.

The meeting continued for two weeks during which period the bus owners mapped out plans for better service to traveling public and went on record against bus lines being controlled by the State railroad commissions.

The bus owners declared that rail commissions could not be expected to be unbiased in their rulings since they would be dealing with competitive industries. The bus owners want to be governed by a body or commission elected by the people for that purpose. While the association favors regulation of the bus lines, taxation of gross income and even regulation of fares, it will resist any attempt on the part of the commission to regulate. Members claim that buses are here to stay and that there will be more every year. They declare regulation would eliminate the irresponsible bus operators and give to the public the best service obtainable.

The bus owners also adopted resolutions pledging the members of the association to the employment of first class drivers, operating buses on a regular schedule, keeping patrons acquainted with schedules and service under any cost. For example if on any particular trip a breakdown occurs passengers must be brought to their destination by hiring other cars, etc. It was also decided to maintain general headquarters where a staff of clerks will be kept for the purpose of keeping the bus owners and the public acquainted with each others' interests, and to battle unnecessary taxation.

H. E. English, of Dallas, is president of the association. C. T. English, of Dallas, executive secretary.

F. W. D. Bring Out New 3-Ton Trucks

The Four Wheel Drive Auto Co., Clintonville, Wis., has brought out a number of new trucks which are intended to cover the complete range of service in the three-ton field. These models are built either with the engine in front of the driver's seat or under it, as in the standard Model B.

In the new BSU and BSD models, which are similar in appearance to the model B, two-stage transmissions are used, giving six speeds forward and two reverse. In the BSU, which is recommended for high-speed service, high speed is an over-gear, while in the BSD, the top speed gives direct drive, this model being recommended for exceptionally heavy pulling. It can be furnished in gear ratios as low as 98.7 to 1.

Models M, MSU and MSD are short, heavy-duty, 3½-ton trucks built with a reserve capacity for overloading. MSU has the same transmission arrangement as BSU, while MSD corresponds to BSD. The design in the M models, however, is heavier than in the B trucks, as they are intended for more severe service. When a model is furnished with the engine in front of the driver's seat, the letter F is added to the model designation to indicate the fact.

Watson to Specialize on Trailers

The Watson Truck Corp., Canastota, N. Y. has discontinued production of trucks to concentrate on the production of platform and bottom dump trailer units. It is the opinion of this company that tractor hauling is becoming very popular and is progressing with leaps and bounds. The company substantiates this statement by the fact that during the past year sales for tractor truck equipment have been greater than any four previous years in its history for units used in this particular field.

The Watson bottom dump unit upon which the company will specialize may be used either as a full trailer or semi-trailer with any make or capacity truck.

Splitdorf Shows Big Increase

The Splitdorf Electrical Company of Newark, N. J., a subsidiary of the Splitdorf Bethlehem Electrical Co., through its President, Mr. M. W. Bartlett, reports for the four months ending October 31st, 1925, an increase of nearly one hundred per cent in sales as compared to same period 1924.

Consolidated figures for the company and its subsidiaries are as follows:

Sales (Net)	$1,829,185.44
Profit (From operations)	214,572.31
*Net Income	$ 175,169.85

*(Before charging depreciation)

New Graham-Dodge Bus and Truck Planned

A three and one-half ton bus and a truck of the same capacity, powered with large size Dodge Brothers engines, will be brought out by Graham Brothers about Jan. 1, according to Robert C. Graham, director of the Commercial Car and Truck Division of Dodge Brothers and vice-president of Graham Brothers, who returned from Europe last week.

Detroit 80 Six-Wheels

The Detroit Motorbus has just placed an additional order for eighty Safeway Six-Wheel chassis. When put into operation, this will make a total of 136 Six-Wheel motor coaches operated in Detroit by the Detroit Motorbus Company.

Selden Doubles 1924 Record

Production and sales of the Selden Truck Corporation are nearly double last year's record. Last month the output of trucks lacked just 17 per cent of doubling last year's deliveries.

Florida Boom Accelerates Truck Sales in the South

The influence of the "Florida boom" on the motor truck business of the Southeastern States is revealed in heavy sales through this section.

A survey of conditions involving the motor truck selling industry indicates that North Carolina and Florida are the States of principal importance at this time, among the Southeastern States, in the sales of trucks. Sales in this State are not quite so heavy as in Florida, according to reports, but the North Carolina demand, particularly heavy in the western part of the State, is far above what might be considered a normal level. Dealers and factory branches reported "a wonderful business" from the Charlotte and Asheville sections of this State. The demand in South Carolina and Georgia is slowly improving.

Collections are appreciably better than they were a few weeks ago in the sections where the truck demand is brisk.

Truck dealers in this territory are particularly interested in the prospects for development of the bus transportation industry. Forecasts frequently are made that bus lines will be developed into great systems in the Southeast within a few years. There are already indications of a definite nature that the large railway corporations are developing an interest in the money-making possibilities of this means of transportation. At the same time there are recurrent reports in this section that large corporations are not primarily identified with the automotive or transportation industries are looking to investments in bus lines because of the possibilities for expansion.

Faulkner Heads Oklahoma Truck and Bus Association

Ward Faulkner, Muskogee, Okla. head of Ward Way Motor Transportation Company was re-elected president of the Oklahoma Truck & Bus Operators Association at its annual meeting. Other officers elected were Robert Weicher, Oklahoma City, first vice-president: A. L. Brogdon, Oklahoma City, third vice-president and Joe L. Cobb, Oklahoma City, secretary. More than one hundred and fifty operators attended the meeting and enthusiastic plans were outlined for the advancement of motor transportation in the southwest. Convention closed with banquet at Mayo Hotel attended by approximately two hundred.

Multibestos Lining for 1926 Fords

The Multibestos Co., Walpole, Mass., announces that it is now supplying Multibestos Transmission Lining for 1926 Ford models.

This material is put up in sets and packed in attractive cartons marked, "New Models," and is in rolls.

A set consists of two pieces 1⅛ x 5/32 —23½ in. long for low speed and reverse bands and one piece 1-25/32 x 5/32—23½ in. long for the brake band.

— Only 30 Inches from the Ground!

Just the right height for easy loading without lifting. Large capacity is provided without top-heavy loading.

Low-hung Construction *with* Six Cylinder Performance

The new RUGGLES SUPER-EXPRESS meets a long-felt need for lower body mounting with lower center of gravity and better distribution of weight.

Designed and built expressly for hauling service where low loading is needed, every mechanical detail has been developed with extreme care for utmost satisfaction and dependability under every working condition.

Six cylinder power, speed and flexibility means faster delivery, greater earning power and wider range of service. Every unit from the dependable 75 horsepower motor to the Ruggles full-floating, durable reduction rear axle is built to stand the strains and stresses of high speed operation under heavy load.

200 inch wheelbase provides increased loading space without objectionable overhang.

32x6 pneumatic tires all around—duals in rear—cushion both truck and load and make high speed possible with safety.

Standard bodies include stake, express and moving van—ALL WITH BODY BED ONLY 30 INCHES FROM THE GROUND.

*DEALERS: The **Ruggles Super-Express** is another example of a progressive policy which keeps **Ruggles Trucks** beyond ordinary competition and helps dealers make money. Get the facts about the complete **Ruggles** line.*

RUGGLES MOTOR TRUCK COMPANY
SAGINAW, MICHIGAN

Long, Low, Racy—The Ruggles Super-Express clings to the road and insures safety at high speeds.

RUGGLES
SIX
SUPER EXPRESS

Personals

E. J. Bartlett, for many years vice-president of the Baker R. & L. Co., has been elected president of the succeeding Baker-Raulang Co. F. W. Treadway, formerly president becomes chairman of the board.

W. H. Brinkerhoff has joined the Standard Motor Truck Co. as eastern district sales manager. Mr. Brinkerhoff, who has a wide acquaintance in the motor world of this section, is a veteran of the old wagon days when he was employed by the Studebaker Company.

R. E. Carpenter, vice-president of the Spicer Mfg. Co., upon his return from Europe intimated that the Spicer organization would soon enter the foreign fields in a larger way than previously.

Charles P. Clark has been appointed assistant general manager of the American Automobile Ass'n, formerly affiliated with the National Automobile Chamber of Commerce joined the A.A.A. a year ago to organize a bus and truck division.

H. P. Dunn, president of the Fisk Rubber Co., believes as a result of his trip to Europe that the rubber situation will be relieved with lower prices and that the Stevenson plan will be modified to permit increased exportation of rubber. He is optimistic about the future of the rubber business in general.

Clarence H. Eldridge, after an absence of five years, has returned to the home plant of the Reo Motor Car Co. as assistant manager of the sales division.

Frank M. Germane has resigned from the Timken Roller Bearing Co. His resignation takes effect January 1st, following Germane's acceptance of a greater opportunity, the details of which have not yet been announced.

F. E. Glass has resigned as vice-president and sales manager of the Oakes Co., division of Martin-Parry Corp., Indianapolis, Indiana. He has not announced his future plans.

J. C. Haggart, Jr., has been elected vice-president of the Republic Truck Co., Inc., following nine years association with the concern. In that time he has served both as chief engineer and assistant to the president.

V. E. Helser, formerly purchasing agent for the Gramm-Bernstein Truck Corp., has been named treasurer of the Buckeye Hardwood Lumber Co. at the wholesale yard, Lima, Ohio.

P. W. Hood, vice-president in charge of sales for the Timken-Detroit Axle Co., has returned to his desk after an absence of four months.

John F. Joseph, superintendent of the mechanical rubber goods department of the B. F. Goodrich Co., has resigned in order to give time to his outside interests. He was with the organization for twenty-eight years.

P. W. Nickel has been appointed director of publicity of the Corduroy Tire Co., Grand Rapids, Mich. Mr. Nickel was formerly associated in an editorial capacity with some of the larger newspapers and for the past five years has served as production manager of the Walter J. Peterson Co., advertising agency.

William O'Neil, president of the General Tire & Rubber Co., has been appointed a member of the Committee on Methods of Distribution, appointed by the Chamber of Commerce of the United States. Instalment selling will be one of the subjects to be discussed at the Washington Conference, December 15th and 16th.

William Petry, president of William Petry, Inc., has died. He was a pioneer in the automobile business and active manager of the company since its foundation.

Walter Reichle, for many years connected with the Packard engineering staff, has accepted a position as chief engineer of the Ruggles Motor Truck Company.

Herbert A. Ruhnke was elected president of the National Tire Dealers Ass'n at its annual convention in St. Louis. He succeeds Geo. J. Burger, who becomes secretary-treasurer, H. V. Wva becomes vice-president. The five new directors elected are: S. V. Harper, Victor Shaw, A. M. O'Leary, A. L. Glick, and A. P. Woehrle.

A. S. Sampierre has been appointed assistant sales manager and director of sales promotion for The Ruggles Motor Truck Company, Saginaw, Mich. Mr. Sampierre was formerly with the Garford Motor Truck Company, and is well known in the motor truck field.

George S. Shugart, vice-president of the U. S. Rubber Co., returning from a trip covering southern points reports that business conditions through that area are exceptionally fine.

A. J. Steel, formerly sales manager of the Herr Dump Body Mfg. Co., Coatesville, Pa., is now with the sales department of the International Motor Co., Philadelphia branch. Mr. Steel has a wide experience in the truck field, having been affiliated in responsible capacities with Mack, Autocar and Ford over various periods.

S. S. Steinberg, professor of the University of Maryland, has been appointed assistant director of the Highway Research Board of the National Research Council.

William C. Stettinus, president and general manager of the American Hammered Piston Ring Co., has been elected chairman of the replacements parts committee of the Automotive Equipment Association. He succeeds Malcolm McCormick of the Milwaukee Motor Products Co.

C. J. Thorne has been made general sales manager of the Turner Mfg. Co., Kokomo, Ind. He is familiar with the problems of the jobber and the dealer.

Oliver F. Transue, president Transue-Williams Steel Forgings Corp., died recently in Cleveland. He was also president of the Buckeye Jack Co.

Al Vinton has been promoted to district manager of the Pacific coast territory of Thompson Products, Inc., with headquarters in San Francisco. Vinton was formerly a Thompson sales representative in the Kansas City territory.

William M. Zintl has been appointed director of sales of the paint and varnish division of the paint, lacquer and chemicals department of E. I. du Pont de Nemours & Co.

Ruggles Production Gains 100%

The Ruggles Motor Truck Company, Saginaw, Michigan, announces that its production for the first eleven months of 1925 shows better than 100 per cent gain over 1924. This is particularly significant of substantial improvement in general truck sales conditions in view of the fact that 1924 was the biggest year for Ruggles since the company was organized. Incidentally October was the best month in the history of the Ruggles Company, every month during 1925 showing a satisfactory gain over the previous month.

Development of inter-city traffic through Ohio has caused the Interstate Motor Transit Company of Chillicothe, O., to add eleven Studebaker buses, 18-passenger sedan type, to its equipment.

Statistics Show Bus Magnitude in Wisconsin

The State Has Licensed 464 Buses to Operate Over 6,000 Miles of Road

SOME idea of the magnitude of the motor bus business in Wisconsin may be gleaned from statistics recently released in Madison, which indicate that the total mileage traversed by bus lines in the State closely approximate the total mileage of the railroads which is about 7,500. This figure does not include double track and switching facilities, and may be compared with the 6,000 odd miles of motor bus routes.

The State has thus far licensed 464 motor buses to operate over this mileage. A few of these are urban buses but most of them are engaged in long runs between distant points. It is possible now to reach all important cities and most of the larger towns by motor bus from any given city. From east to west one may journey by bus across the State from Milwaukee to Dubuque, Iowa; from Milwaukee to Prairie du Chien, to La Cross, to Minneapolis and to other points in nearby States, including Chicago.

Buses are relatively free from restriction in Wisconsin, only a few requirements being laid down for their operation. One of these is that a schedule and rate of fare card be filed with the State railroad commission. Another is that bus lines must insure their passengers against accident and injury, not to exceed $30,000 in a single accident nor $15,000 to a single individual. This feature alone costs bus line operators from $500 to $600 yearly for each bus. In addition there is a State license average $185 depending upon the size and weight of the vehicle.

In spite of this $700 to $800 initial burden for every bus, the motorbus industry in the State is thriving and another year should see a 25 to 50 per cent increase in the number of buses in operation.

Yellow and Checker Combine

Announcement of the merger of the Yellow and Checker Taxicab companies of San Francisco and the Yellow Taxicab and Black and White Taxicab companies of Los Angeles, a deal involving $4,000,000, was made here today by George D. Roberts, investment banker.

The two Southern companies were purchased outright for a sum exceeding $700,000, it was reported. The four systems will operate under a Delaware corporation known as the Yellow & Checker Cab company. More than 2500 employes are concerned in the deal, which is said to be the largest taxicab merger to be affected on the Pacific coast.

The Yellow Cab company of San Francisco operates 225 cabs, the Checker 145, the Yellow Cab company of Los Angeles 300 and the Black & White of Los Angeles 80.

EATON

THE unusual quality of Eaton Bus Axles means:

—A little bit added to the price—a great deal subtracted from maintenance costs.

—Safety, Economy, Assured Performance.

Full specifications on Request

The EATON AXLE & SPRING COMPANY
CLEVELAND
EATON AXLES ∴ EATON BUMPERS ∴ PERFECTION SPRINGS

AXLES

Making the Service Department Self-Supporting

(Continued from 25)

financial year promises to find the figures in black.

Weekly reports for the following few weeks show promise of another substantial surplus, despite the fact that overheads are well over 100 per cent on labor.

Beside the saving in actual cash expenditure, there is economy in making the service more valuable to the customer. With this in view, Macauley holds service meetings two or three times a month, his main idea being to inject some of his own enthusiasm into the staff. Service work while capable of being intensely interesting can also be very discouraging, and very few service station floor men have the innate philosophy to withstand insult and abuse from those whose business it is to please. Not only is the study of human nature a necessity from this standpoint, but it is also essential in arriving at the cause of complaints. A lot of trouble blamed on the machine can be traced back to the mental attitude of the customer. The men are urged to study their clients.

Another thing to be guarded against is the accepting of the costumer's diagnosis of the trouble. Quite recently a truck came in, the driver reporting a noise in the rear axle. Work was done on the axle to the tune of $47, but the driver brought the machine back because the noise was still there. A road test by the service manager revealed to his trained ear that the noise emanated from the front universal. The floor men now make their own diagnosis in every case.

Another interesting point is that the same man is called to inspect a vehicle in for repair as examined it prior to delivery. As a result he soon has a good idea of its history and general condition.

Finally, Macauley emphasizes the necessity of the service manager maintaining as many contacts with the work and with the customers as possible. Selling the service department to the truck user, he claims, is more difficult than selling the vehicle, and the average service floor man has not this sales ability or he would not long remain in that capacity. All truck sales are presumably based on the confidence of the buyer in the company from whom he buys, and on the service department depends the continuance of that confidence. For this reason the prime essential is that every member of the service department must be sold both on the product he handles and on the company for whom he works.

Coolidge Asked Not to Reduce Federal Aid

Calvin Coolidge, president of the United States, was asked in a telegram today by the Carolina Motor Club, through Coleman W. Roberts, vice-president, not to recommend any reduction in Federal aid for state highways. It is reported that the president will suggest a reduction in his message to Congress which will go to the printers in a few days. It is understood the protest is nation-wide with the exception of a few states that have about completed their highway programs.

The telegram to the chief executive follows:

"Rumored that your message will suggest Federal aid for state highways be reduced. Sincerely hope this is untrue because motorists in North Carolina are strong for full continuation of Federal highway aid. Reduction of Federal aid will be very unpopular and resented throughout this whole section of the country and I implore you to ascertain the real sentiment of the nation regarding this important matter before taking any action. Carolina Motor Club, Inc., Coleman W. Roberts, vice-president.

Keep the Truck Healthy

(Continued from page 24)

anything else is found which needs attention the mechanic attends to that also.

When machines are put into condition to receive the flat rate monthly service every item on the card is looked after.

Drivers coming into the garage report what they believe wrong with machines. These items are placed on the tag and the tag fastened to the machines. The mechanic makes the adjustments and reports to the office on the card.

While the greater part of the machines receiving monthly maintenance in the Newby garages are charged for at the flat rate of $8 per month per vehicle, some take a higher rate.

All trucks engaged in ordinary use, up to 5 ton capacities, take the $8 rate per month. All passenger vehicles go under the $8 charge. Trucks of 5 ton capacity take a rate of $9 per month and trucks engaged in hauling gravel and cement have a special rate of $14.50 per month per vehicle. In all cases the flat rate charged for the maintenance service has been arrived at by actual experience.

Some months ago the Newbys took on 22 trucks in the gravel business at $8 per month per truck. They had never had any experience with this line of trucks. After two or three months they found they were losing around $100 per month on these machines. They notified the owner they could not continue the service. The owners asked at what rate they would service the machines and the $14.50 rate was fixed and accepted by the owner.

Explaining just how far the Newby service goes Mr. Newby said recently after a heavy rain five trucks of one fleet owned by a baker, would not start one morning. The baker called the garage and Newby sent out his trouble car. He said any service station would have made a flat charge of $2 per machine for that service but it was included in the $8 per month rate.

The agreement between the Newbys and the owners for the monthly flat rate service may be terminated on ten days' written notice from either party. If the fleet owner terminates the contract and there has been repair work, due to wrecks or burnt out bearings within sixty days prior to the notice of termination of contracts, the fleet owner agrees to pay for such work at prices charged by reliable garages.

The Newbys have little trouble in finding vehicles for service. If a merchant has 20 vehicles chances are he employs two mechanics at $300 per month and pays rent on garage where service is done, maintains trouble car and incurs other expenses, while Newbys will do the whole thing for $160 per month. The owner of 5 truck fleet employs one mechanic at $150 and rents place for service cars while Newbys do the work for $40.

Woonsocket power-operated rotary type hoist and body with double acting tailgate

It is manufactured by the Woonsocket Manufacturing Company, Woonsocket, R. I., and is adaptable to a Ford 1 ton chassis with Warford transmission. The body is of all metal construction, as it may be observed from the illustration. This power-operated equipment is offered at a reasonable list price.

LEHIGH

MOTOR TRUCKS

~ engineered for modern roads
~ built to meet today's needs
~ sold at a $1000 saving

A Two-ton Lehigh costs $1695 -$1101 less than the average

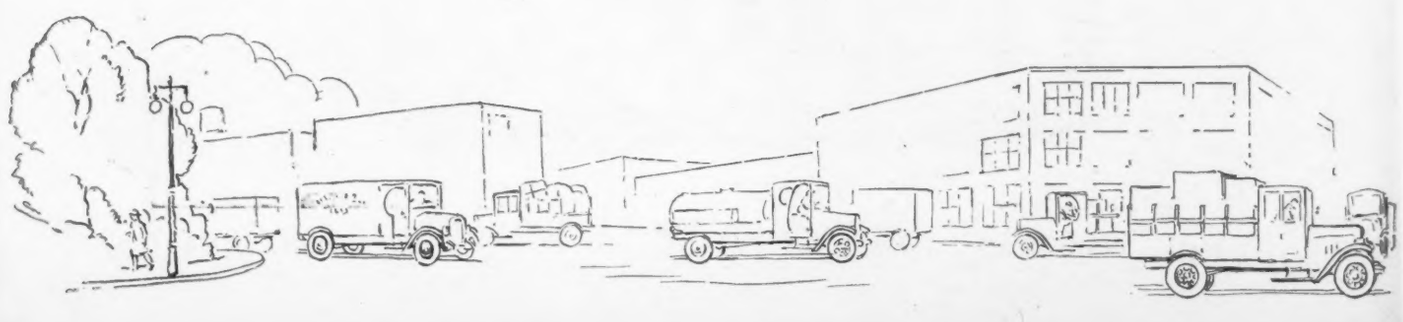
The Lehigh has been built for today's better roads.

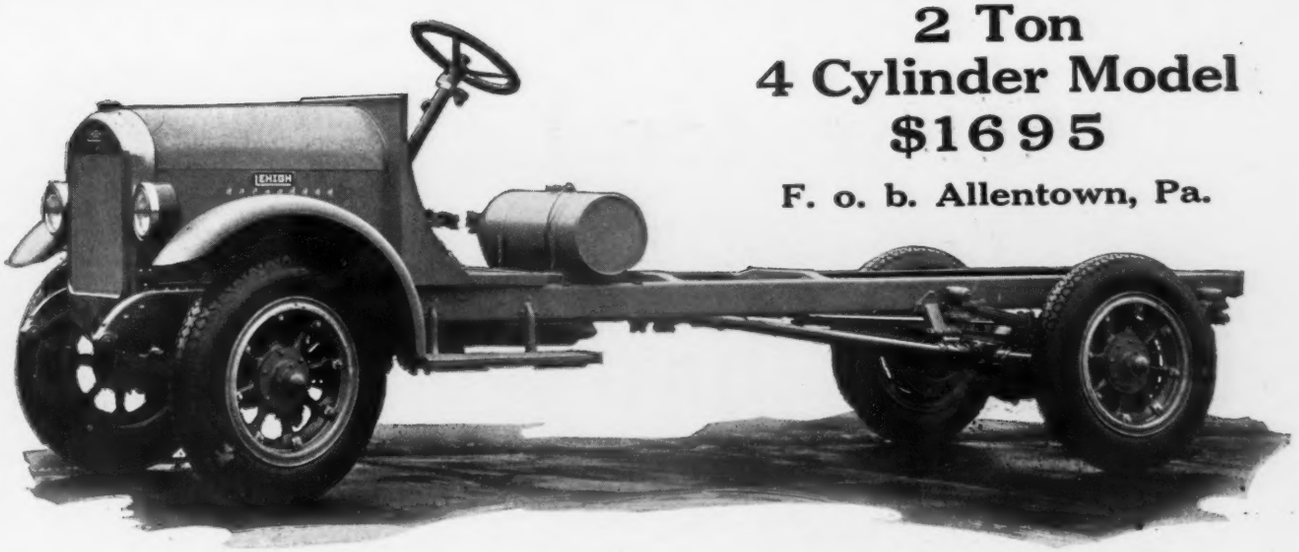
Its design and engineering have been directed by the dominant thought, now in the mind of every experienced truck owner, that unnecessary vehicle weight adds nothing to the income of a truck but does add considerable to the maintenance expense.

With this thought in mind Lehigh has designed a STRONG, POWERFUL, SPEEDY two-ton chassis weighing 3270 lbs., which is 730 lbs. less than its payload and 1330 lbs. less than the average two-ton chassis.

STRONG: Steel castings with their greater strength are used in place of malleable iron. Steel forgings are used to give added strength with less weight.

Alloy steels are used in place of the ordinary carbon steels. These super-strength metals reduce the size and weight of members considerably as compared with the clumsy, huge carbon steel and malleable iron parts used in other trucks.





2 Ton
4 Cylinder Model
$1695

F. o. b. Allentown, Pa.

POWERFUL: By keeping the weight 730 lbs. less than its pay load there is gained an advantage of 25.6 lbs. per horsepower. That is, the average two-ton truck carries 95.6 lbs. of chassis weight per horsepower, while the Lehigh carries but 70 lbs.

SPEEDY: Because of its lower chassis weight and its low center of gravity the Lehigh ably carries its capacity load at 45 miles per hour and with its large braking surface (one square inch braking resistance for every 7 1/5 lbs. of chassis weight) it carries it safely. THE LEHIGH COMPANY, *ALLENTOWN*, PA.

MOTOR TRANSPORT
Avoid a Penalty of $1000 for Excessive Truck Weight
65
The day of true economy is dawning. The hour of the modern, light weight, high quality, well balanced, sensible and economical motor truck is here.
No longer need a penalty of from $500 to $1,100 be paid for excessive truck weight. Ponderous sized giants up to 6,000 lbs. may have been necessary for a two-ton load when mud and muck ruled the road—but not today.
Today's 35,000 miles of good roads demand a truck designed to fit them.
Lehigh has built this truck
Engineered to Meet Modern Conditions
No traditions hampered Lehigh Engineers. No stock of existing dies, jigs, or machines dictated the construction of this unit.
Working with the firm conviction that bulk is no indication of strength, nor size of quality, Lehigh has produced a truck simple, accessible, well balanced with every part selected to meet modern conditions.
Instead of relying on bulk and weight, so costly in operation as well as in first cost, Lehigh Engineers have built to eliminate weight, to save tire, gas and service expense—they have built for the UNDERLOAD as well as the rated load.
Staunchly Dependable
Lehigh's inherent strength is the result of the perfect balance and quality of its units. The center of gravity makes for greater speed and strength. Designed from the ground up to overcome road, load, starting and stopping shocks that lead heavy trucks to premature repair
It is as easy to handle as a passenger car. Conserves driver's energy, so that the last hour of the day is as productive as the first.
A four cylinder 2-ton unit weighing 3,270 lbs.
STANDARD BODY and CAB TYPES TO MEET ALL REQUIREMENTS.
Service Everywhere
If you will fill in, tear out and mail the reminder coupon, we will gladly send to you complete details of this unit.
2-TON, 4-CYL. MODEL
$1695
F. O. B. Allentown
LEHIGH
MOTOR TRUCKS
The Lehigh Company
Allentown, Pa.
Gentlemen: By return mail please send me complete details about Lehigh Trucks. My name, company name and address are in the margin of the magazine below.

Lehigh advertising constantly appearing in dominant publications.

This is the idea of the Lehigh franchise. . . .

It is secure because it protects you absolutely against invasion of your territory.

It is permanent, because there is a strong, well financed organization behind it.

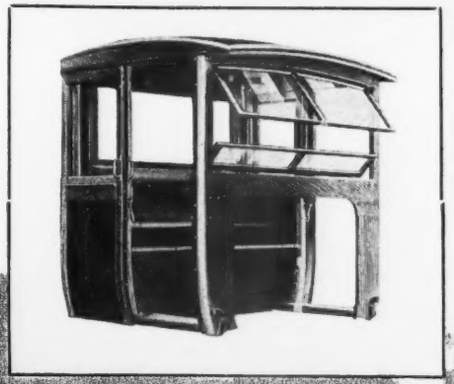
It will bring prosperity, because your margin will enable you to lay up a reserve for expansion and because you are sure of a large and constantly increasing following of *satisfied customers.*

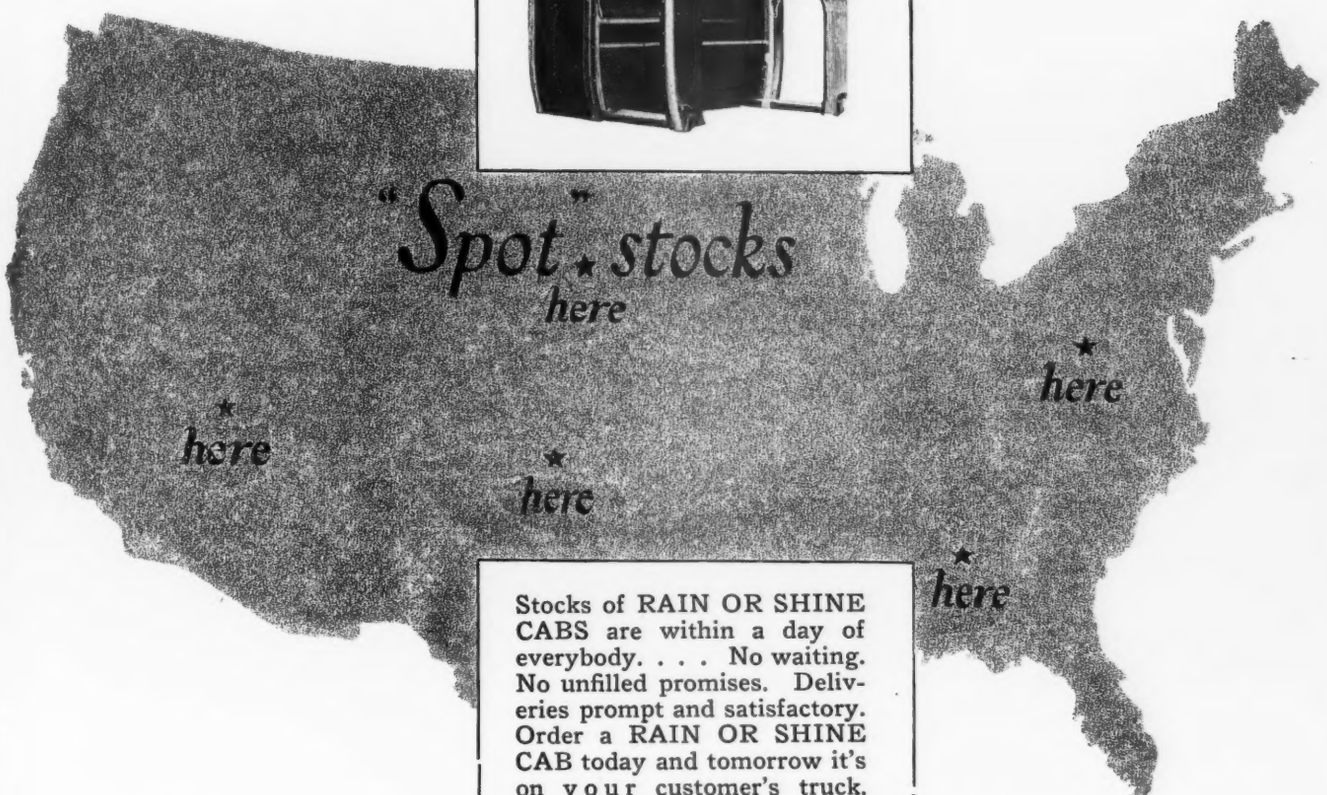
It affords all that any ambitious dealer can ask . . . Profit . . . Security . . . Permanency . . . Opportunity. Now, while you think of it . . . fill in . . . tear out . . . and mail the reminder coupon below. No obligation. But get all the facts.

LEHIGH
MOTOR TRUCKS

The
Lehigh Co.
Allentown, Pa.

Gentlemen: By return mail please send me complete details of your sales proposition. I am interested. My name, company name and address I have written in the margin of the magazine below.





Stocks of RAIN OR SHINE CABS are within a day of everybody. . . . No waiting. No unfilled promises. Deliveries prompt and satisfactory. Order a RAIN OR SHINE CAB today and tomorrow it's on your customer's truck. These cabs laugh at all weathers—so do the men inside. They help keep trucks moving — earning — all the time.

Good profit for you. Clear profits! No costly investment in stocks. We make this investment for you and insure quick, prompt delivery by maintaining "within - a - day" stocks.

Write for details of our profitable sales proposition.

RAIN OR SHINE CABS

General Woodwork Corp.

Cincinnati, Ohio

The General Motor Coach and Body Division

No. 900-A Double Chair

FINEST FOR BUS SEATING

Built up with shaped and padded double back and arm panels, deep sub-spring cushion and loose spring air cushion top pads, all leather or imitation leather covered. Seat mounted on pressed steel base and can be either revolving or stationary.

There's a real welcome in comfortable seats

When you consider that comfort and happiness are closely related and the comfortable passenger is generally a happy passenger, it is not hard to realize that *comfortable seats sell rides.*

Hale & Kilburn Seats are built for passenger comfort, also they are of efficient practical design and built to stand up under the hardest service.

Fifty years of vehicle-seat building has made Hale & Kilburn Seats the standard for comparison.

Write for catalog

Finest Driver's Seat

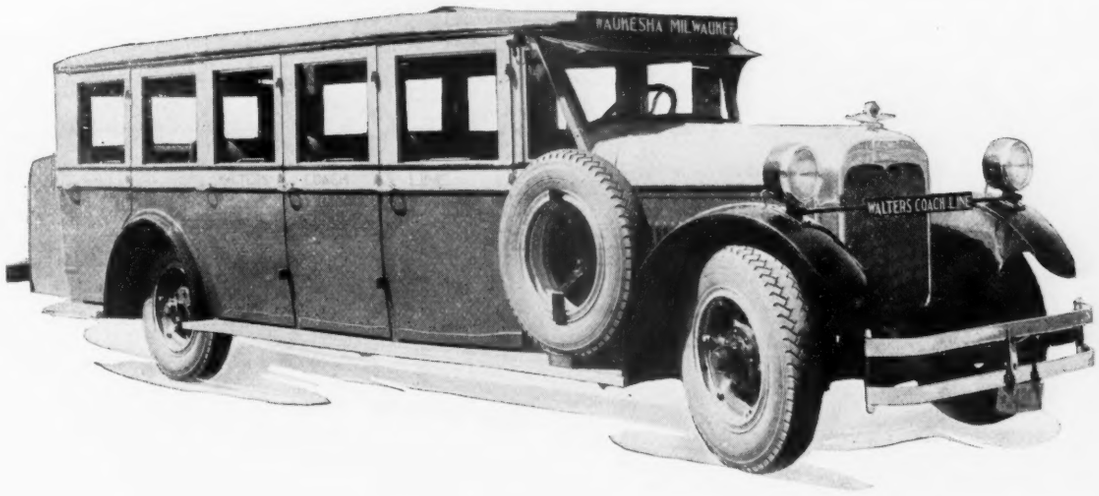
HALE-KILBURN COMPANY

General Offices and Works: 1800 Lehigh Avenue, Philadelphia

SALES OFFICES

Hale-Kilburn Co., 30 Church St., New York
Hale-Kilburn Co., McCormick Bldg., Chicago
Equipment Sales Corp'n, Railway Exchange Bldg., St. Louis
E. A. Thornwell, Candler Bldg., Atlanta
Frank F. Bodler, 903 Monadnock Bldg., San Francisco
Chris Eccles, 320 S. San Pedro St., Los Angeles
T. C. Coleman & Son, Starks Bldg., Louisville
W. L. Jefferies, Jr., Mutual Bldg., Richmond
W. D. Jenkins, Praetorian Bld., Dallas, Texas
W. D. Jenkins, Carter Bldg., Houston, Texas
H. M. Euler, 46 Front St., Portland, Oregon

Hale and Kilburn SEATS



"Acme trucks are built of units that have been proved right by hundreds of thousands of miles of actual road service . . . "

--A declaration of policy published by the Acme Motor Truck Company of Cadillac, Michigan. And a strict adherence to this practice has earned for them a reputation as builders of quality trucks and buses.

The continued use of proven units, year after year, gives a distinct sales advantage to Acme dealers.

Eisemann Magnetos have been used as standard equipment on Acme trucks since 1919—Acme trucks are noted for their freedom from ignition troubles.

Type G4 Magneto. The standard ignition system used by the large majority of quality trucks and buses.

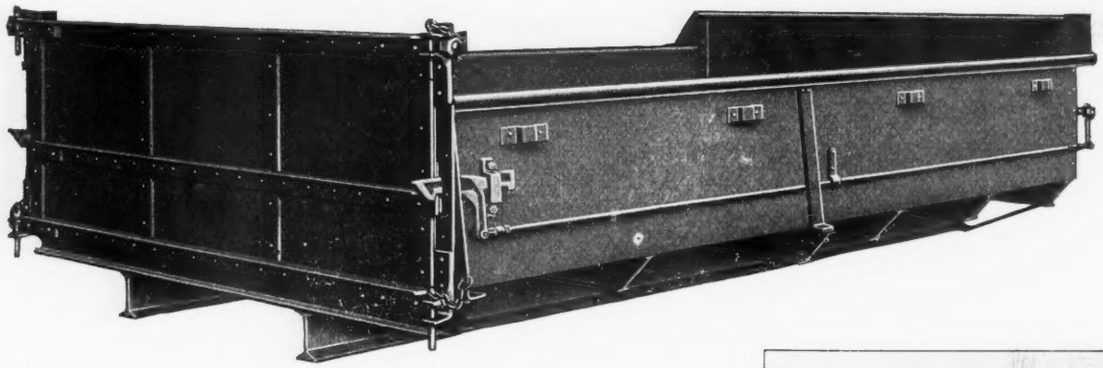
EISEMANN

EISEMANN MAGNETO CORPORATION
General Offices: 165 Broadway, New York

Branches
DETROIT SAN FRANCISCO CHICAGO

EISEMANN
ELECTRICAL EQUIPMENT

Stewarts ALL-STEEL Body!

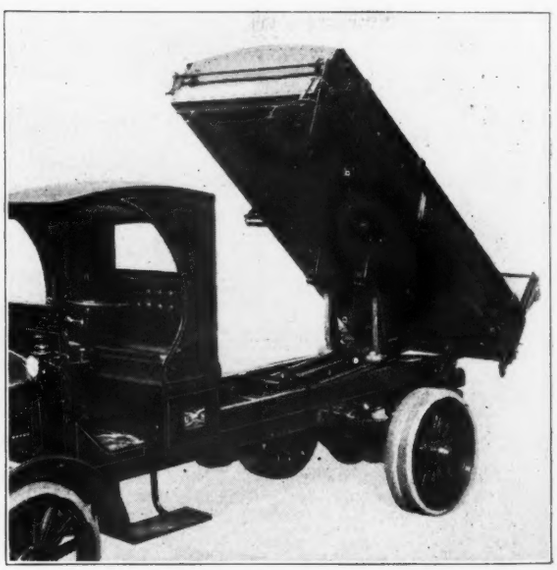


Give the Road Contractor This BETTER Dump Body —Earn His Re-orders

This sturdy all-steel dump body on the trucks you sell to road contractors will go a long way towards selling these good customers on YOU and on your line; for a Stewart Model U. D. Body on a high grade truck chassis makes a dump unit that will "stand up" so well, and get work done so economically that a man who has one of your trucks will want more of the same kind—YOU GET HIS RE-ORDER without trouble and expense.

Notice the powerful Stewart sub-frame construction—heavy I-beams not riveted to the base for rigid support in both directions—able to stand years of hammering service. This is the kind of dump body that will make a hit with contractors, road makers, building supply and coal dealers—everybody in fact who has to load, haul and dump rock, coal, sand, gravel and other bulk material.

We have an interesting proposition for you. WRITE.



Everything about a Stewart is designed for strength and convenience. There's a heavy, double-acting tail gate with a hand control within reach of the driver. The rivets inside the body are countersunk to give a smooth dumping surface. The sides are equipped with stake pockets for side boards.

THE STEWART IRON WORKS COMPANY
INCORPORATED

CINCINNATI, OHIO, U. S. A.

FACTORY, COVINGTON, KY.
Opposite CINCINNATI

New Models . . . *acclaimed typical of Gramm Quality*

Model 80, 152 inch wheelbase

Two heavy-duty 3-3½ and 4-5 ton trucks . . . 8 forward speeds, 2 reverse . . . compound, compensating springs . . . shock cushioned motor mounting . . . standardized, interchangeable design, cuts costs 25%

THE high efficiency of the Gramm & Kincaid truck and its growing numbers on the world's highways call attention daily to the engineering thought behind its construction.

These new models are built on the same standardized, interchangeable principle that has popularized the 1, 2, 2½ ton Gramm & Kincaid trucks. All units and construction are the same throughout, differing only in that heavier construction is employed to meet the requirements of the larger sizes. This cuts truck and service costs 25%.

Mount Either Four or Six

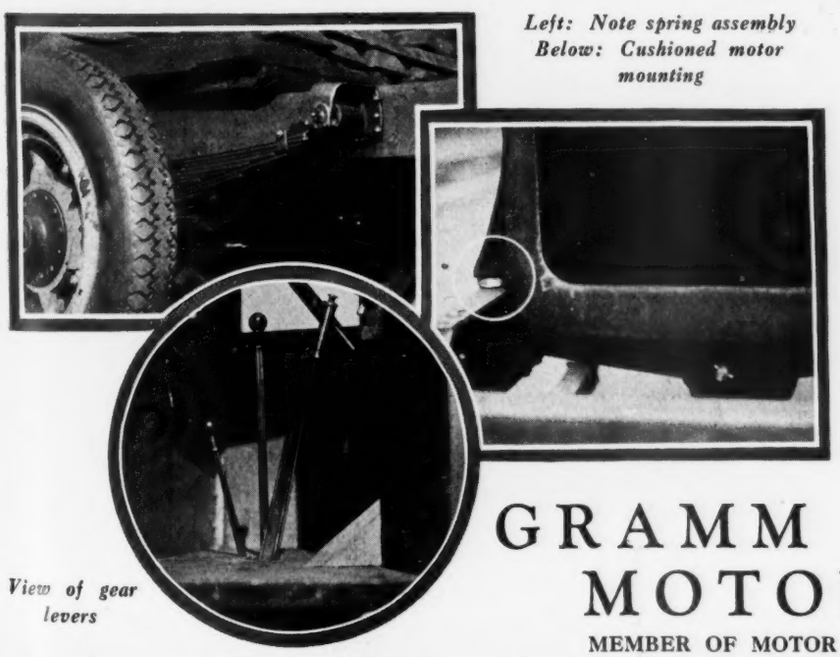
Four cylinder motors are mounted on both trucks, but both are designed to carry a six cylinder motor, if desired.

New type two stage reduction gears are used. This permits of 8 forward speeds and 2 reverse. Speeds range from ½ mile per hour to 29½ m.p.h. with the 3-3½ ton truck; and 25½ m.p.h. with the 4-5 ton job. Straight-line drive from engine shaft to rear axle. Straight pull to brakes. Large braking surface. Besides rear wheels—a floating shoe type, 11½" x 5" is mounted back of transmission.

Shock Proof Design

Resilient construction throughout. The motor is mounted on a combination of springs and rubber shoes. Eliminating vibration.

Moving Van mounted on Model 60. Wheelbase 176 inches



Left: Note spring assembly
Below: Cushioned motor mounting

View of gear levers

With the truck springs themselves new Gramm improvements have been made. They are of the compound, compensating type, the same as those of the Fifth Ave. buses. They give a riding comfort heretofore unknown in heavy duty vehicles. Automatically they adjust themselves to road, load and speed conditions.

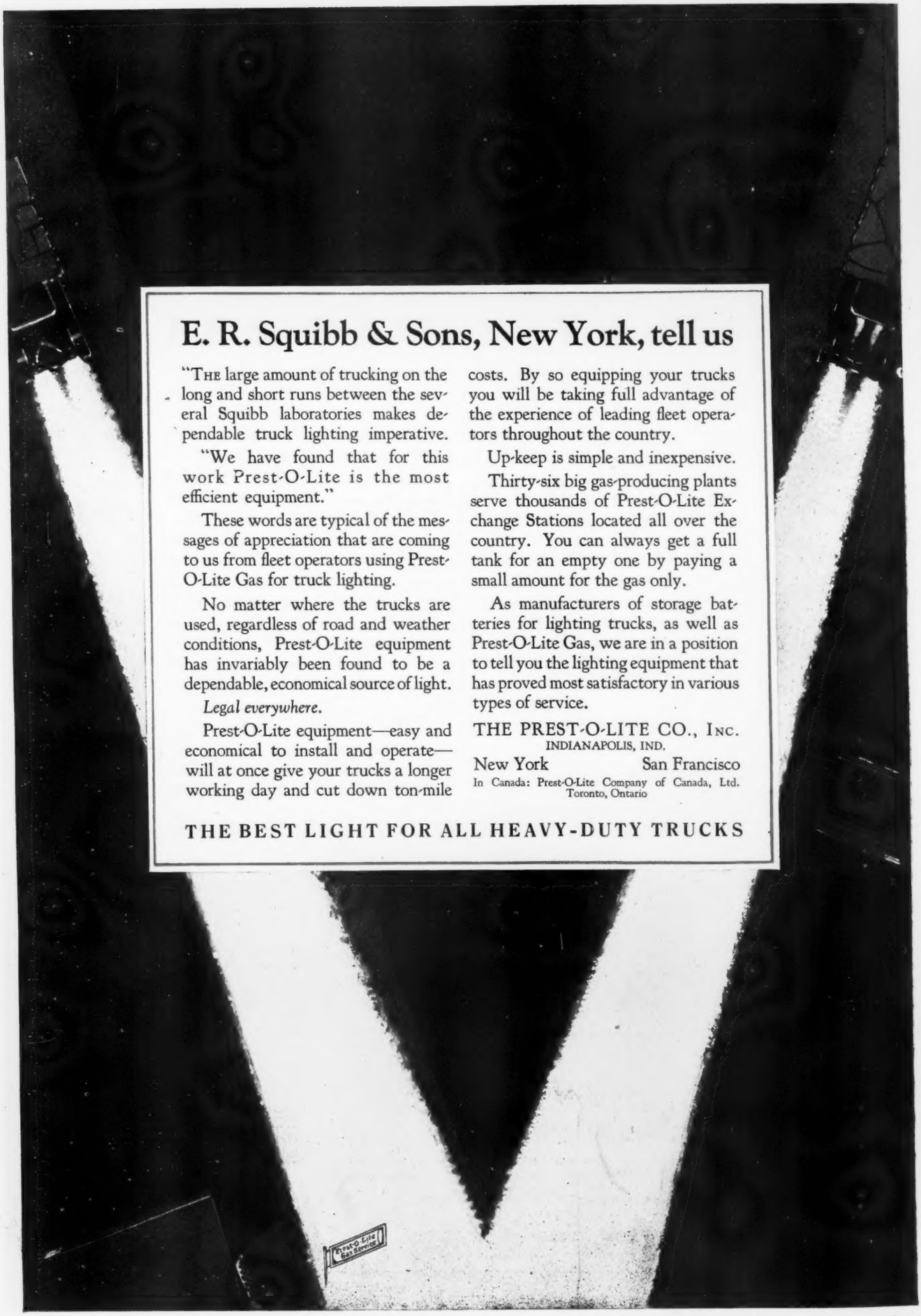
Passenger car steering ease. Ross gear. Full-floating, sturdy, double reduction axle. All gears and bearings operate in a bath of oil.

Powerful. Accessible. Well balanced construction. Gramm has eliminated useless weight and built strength in these units without stodgy bulkiness.

Remember . . . New features; new low prices; smaller investment and smaller parts stock. Remember, too, bankers will extend the limit on the Gramm & Kincaid truck. They know there is HIGHER VALUE PER DOLLAR INVESTED. Write today for information on dealer franchise. It's new. Interesting. GRAMM & KINCAID MOTORS, INC., *LIMA*, Ohio.

GRAMM & KINCAID MOTOR TRUCKS

MEMBER OF MOTOR TRUCK INDUSTRIES OF AMERICA



E. R. Squibb & Sons, New York, tell us

"The large amount of trucking on the long and short runs between the several Squibb laboratories makes dependable truck lighting imperative.

"We have found that for this work Prest-O-Lite is the most efficient equipment."

These words are typical of the messages of appreciation that are coming to us from fleet operators using Prest-O-Lite Gas for truck lighting.

No matter where the trucks are used, regardless of road and weather conditions, Prest-O-Lite equipment has invariably been found to be a dependable, economical source of light.

Legal everywhere.

Prest-O-Lite equipment—easy and economical to install and operate—will at once give your trucks a longer working day and cut down ton-mile costs. By so equipping your trucks you will be taking full advantage of the experience of leading fleet operators throughout the country.

Up-keep is simple and inexpensive.

Thirty-six big gas-producing plants serve thousands of Prest-O-Lite Exchange Stations located all over the country. You can always get a full tank for an empty one by paying a small amount for the gas only.

As manufacturers of storage batteries for lighting trucks, as well as Prest-O-Lite Gas, we are in a position to tell you the lighting equipment that has proved most satisfactory in various types of service.

THE PREST-O-LITE CO., Inc.
INDIANAPOLIS, IND.

New York San Francisco

In Canada: Prest-O-Lite Company of Canada, Ltd.
Toronto, Ontario

THE BEST LIGHT FOR ALL HEAVY-DUTY TRUCKS

Why let darkness eat into your truck profits?

THERE's no reason why *your* trucks should not be busy after dark, earning bigger profits on the money you have invested in them.

It's merely a matter of providing them with safe, dependable light—light that will take all the danger, all the risk, from night driving.

And here is the light—Prest-O-Lite Gas—all ready for you. It can be quickly and economically installed, and once installed the maintenance cost is extremely low.

Prest-O-Lite Gas provides light that is absolutely *dependable* under all conditions. It provides a light that enables a driver to see far ahead, regardless of fog, smoke or storm. And that means *faster*, *safer* and *more profitable* night hauling.

Equip your trucks with this safe, dependable, profit-producing light. You take no chances, make no experiments with Prest-O-Lite. It has already made good on thousands of the country's largest fleets.

To Truck Dealers

You do your customers a real service when you recommend Prest-O-Lite Gas for trucks. It guarantees them a lighting system that will stand the gaff—and it is a system that will require no maintenance by you in the way of service. In addition, you build an increasingly profitable business in tank exchanges. Write for details.

Prest-O-Lite Gas

THE BEST LIGHT FOR ALL HEAVY-DUTY TRUCKS

Did you get Your Copy?

THE whole story is told in wonderful colored illustrations and terse phrases.

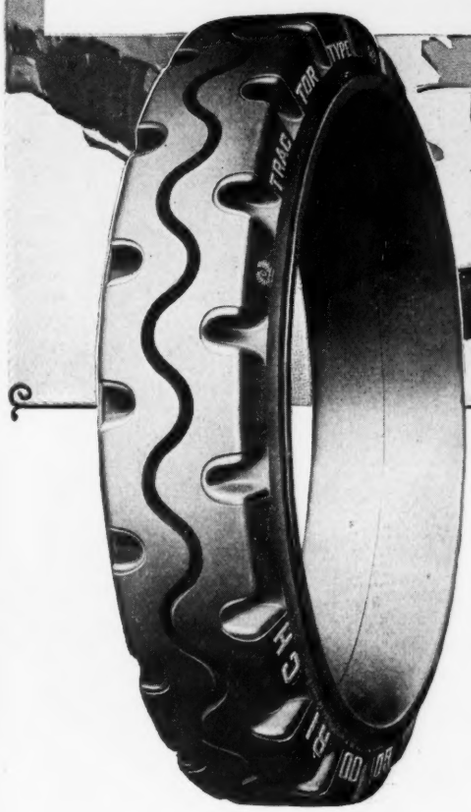
Not necessary to plow through a lot of dry reading matter. It's different—write for it.

Wood Hydraulic Hoist & Body Co.

World's Largest Makers of Hydraulic Hoist and Steel Bodies

7944 Riopelle Street **Detroit, Michigan**

Meet Excavating Test . . . . We are motor transportation engineers specializing in dump work, such as hauling building materials, road work and general excavation; a line of business that will subject any solid tire to as severe a strain and test as is possible . . . . Our first Goodrich De Luxe Tractors are now on their 14,000th mile, despite decidedly hard usage and abuse. This performance, together with wonderful resilience and traction, have resulted in our now having nine of our fleet De Luxe Tractor equipped. **Pawton & Martin, Cleveland, Ohio.**



"Best in the Long Run"

They Dig in for Profit

Traction is the crying need in all heavy duty trucking and long hauling . . . . Traction is the other name of the Goodrich Tractor-Type Cushion Tire . . . It grips and carries the load . . . . Its unusual performance in excavating, on up-hill pulls, in all kinds of exceptional work, is praised in scores of letters from men who have benefited by the unique working character of Goodrich Tractors.

[To round out economical and efficient service in the operation of trucks and buses, Goodrich provides the famous De Luxe cushion smooth type, Goodrich Semi-Pneumatics and Goodrich Silvertown Heavy Duty Cords.]

THE B. F. GOODRICH RUBBER COMPANY, *Akron, Ohio*
In Canada: Canadian Goodrich Company, Ltd., Kitchener, Ontario

Goodrich
De Luxe TRACTORS

ATTERBURY

ESTABLISHED 1903

Thirty-five miles an hour with two (2) ton loads and economy over the years not months—the Atterbury Highway Express is proving that it can be done.

Also 2½-3, 3½-5, 5-7 ton models

Atterbury Motor Car Co.

Members of Motor Truck Industries, Inc.

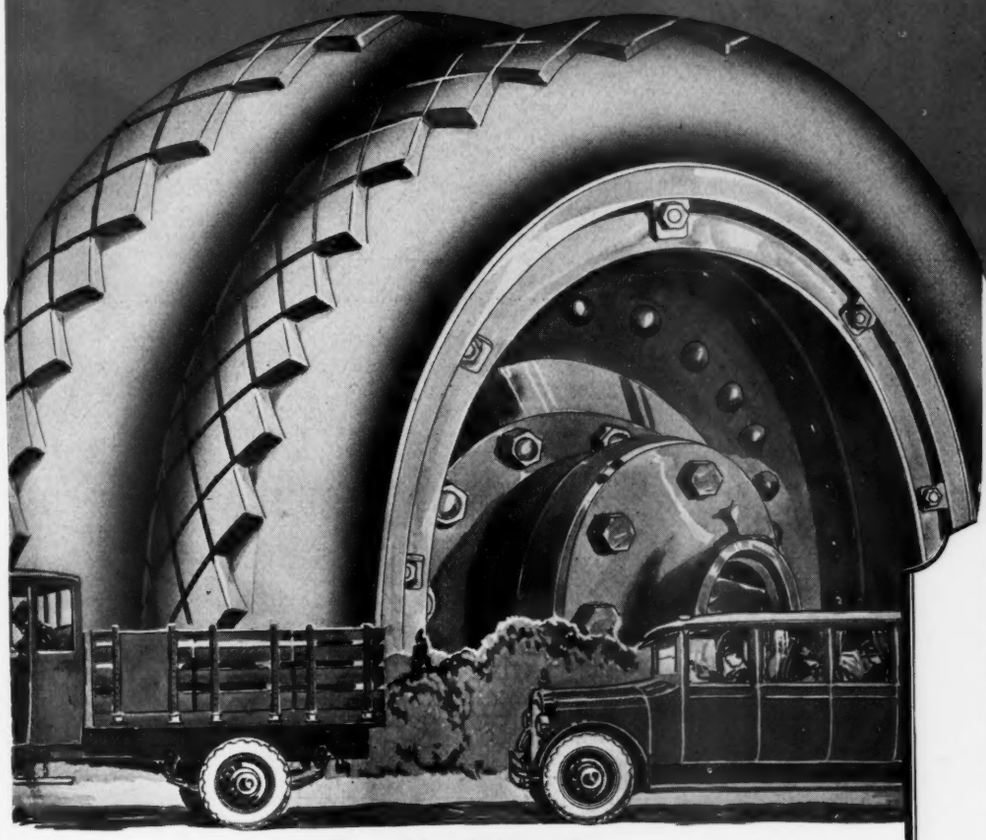
Elmwood Ave. at Hertel Buffalo, N.Y.

Export Department: 611 Fisk Building
Broadway and 57th St. New York City

The new Atterbury Highway Express

THE SPEED TRUCK THE NATION'S BUSINESS HAS WAITED FOR

DUAL *Steel Wheels* *For* PNEUMATICS



Service Speed Safety

ROLL CALL

Ahrens-Fox Motor Truck Co.
American Oil Pump & Tank Co.
Anderson Motor Car Company
Apperson Automobile Company
Auburn Automobile Company
Betz Motor Truck Company
Biederman Motors Company
Bowser & Company, S. F.
Bridgeport Motor Truck Co.
Brockway Motor Truck Co.
Chicago Motor Truck, Inc.
Clark Company, George P.
Clydesdale Motor Truck Co.
Columbia Motor Truck Company
Cortland Cart & Carriage Co.
Defiance Motor Truck Company
Denby Motor Truck Company
Elcar Motor Company
Franklin Mfg. Co., H. H.
General Motors Truck Company
Gilbert & Barker Mfg. Company
Gotfredson Truck Corporation
Gramm-Bernstein Motor Truck Co.
Gramm-Kincaid Motors, Inc.
Hahn Motor Truck Company
Harmer-Knowles Truck Corporation
Highway Service Corporation
Huffman Bros. Auto Company
Independent Motor Truck Co.
Indiana Truck Corporation
International Harvester Co.
Kankakee Truck Co.
Kearns-Dughie Motors Co., The
King-Zeitler Company
Larrabee-Deyo Motor Truck Co.
Lexington Motor Corporation
McFarlan Motor Corporation
Master Motor Truck Mfg. Co.
Moller Motor Car Co., M. P.
Menominee Motor Truck Co.
Milwaukee Tank Works
Moreland Motor Truck Co.
National Steel Car Corporation
Ogden Motor Company
Pittsburgher Motor Truck Co.
Public Health Service
Rainier Trucks, Incorporated
Red Ball Transit Company
Roamer Motor Car Company
Sanford Motor Truck Company
Sayers & Scovill Company
Schacht Motor Truck Co., G. A.
Service Motor Truck Co.
Standard Oil Co. of California
Sterling Motor Truck Co.
Stewart Motor Corporation
Stoughton Wagon Company
Tokheim Oil Tank & Pump Co.
Traylor Mfg. & Eng. Company
Treasury Dept. United States
Union Motor Truck Company
United Motor Products Company
United States Motor Truck Co.
Victor Motors, Incorporated
Wayne Oil Pump & Tank Co.
West & Dodge Company
Wilcox Trux, Incorporated
Wolverine Trailer Corporation

Quality Wheels *for* 17 YEARS

DUAL-PNEUMATIC Steel Wheels with Demountable rims for motor trucks and buses.

Here is a Dual-Pneumatic steel wheel that will give you Service, Safety and Speed.

Two main points of consideration: The "INDESTRUCTIBLE WHEEL" makes the use of Dual-Pneumatics highly *practical* and *economical*.

Seventeen years' experience building steel wheels for every automotive requirement is the reason we are making our perfected Dual-Pneumatic Demountable rim INDESTRUCTIBLE Steel Wheel. No obligation whatsoever for you to get our "Comparative Costs."

Manufactured by

INDESTRUCTIBLE WHEEL COMPANY
LEBANON, INDIANA

Indestructible Steel Wheels

"THE WHEELS THAT STAND THE TEST"

Known for Their Dependability in Road Building Work

DEPENDABLE at all times, no matter what the conditions of load, road or weather, White Trucks offer road contractors a tool that is without an equal in road construction and maintenance work. Because of their dependability and all around utility White Trucks are profitably serving more than 400 road contractors.

In White Dump Trucks the road contractor gets the best chassis that can be built, plus a dumping mechanism, which owners say, is the most effective, most economical, easiest to operate and which enjoys the greatest freedom from mechanical trouble.

You need the truck which will do your work, whatever it is, at low cost and keep on doing it.

See the White Truck Exhibit at the Chicago Good Roads Show

THE WHITE COMPANY, Cleveland

WHITE TRUCKS

MADE RIGHT — SOLD RIGHT — KEPT RIGHT

Clear Vision vs Wide Blind Spots!

ONE of the striking differences between Highland Cabs and the hinged door cabs is in the size of the blind spot at the ends of the windshield.

This is a vital and important difference. For with increasing traffic it becomes daily more important that the blind spot should not cover up children or other cars. Only so can serious accidents be avoided.

A hinged door cab cannot be built with vision as clear as the Highland Cab. Highland engineers worked out a construction superior in this respect to any that had been offered before. It is a construction which no local builder can follow.

Highland Cabs are designed by competent engineers, produced in thousands by a large organization specializing on cabs and sold to truck companies and truck owners everywhere as best and most advanced product of the kind. They cost no more than a rough, poorly designed job made by a local carpenter. There is no question about the difference in convenience and value.

Every truck manufacturer or dealer can supply Highland Cabs. For trucks now in use local distributors can supply Highland Cabs. Insist on them and take no other. Write for prices and the name of your nearest distributor.

THE HIGHLAND BODY MFG. COMPANY
403 Elmwood Place, Cincinnati, Ohio

HIGHLAND Cabs

ZENITH

A Nation-Wide Service

WHEREVER the Zenith-equipped motor goes in the United States, in Canada, Cuba, or Mexico, it finds this familiar sign of Zenith Service.

Rarely, if ever, will the owner need service on his ***fixed adjustment*** Zenith, but it is a source of satisfaction to him to know, that if needed, it is at hand.

The Zenith organization of 81 distributors and over 1100 service stations co-operates with garages and car dealers to increase owner satisfaction.

There is a Zenith for every car, truck, bus, tractor, airplane, boat or industrial engine

ZENITH-DETROIT CORPORATION

Manufacturer of

ZENITH CARBURETORS

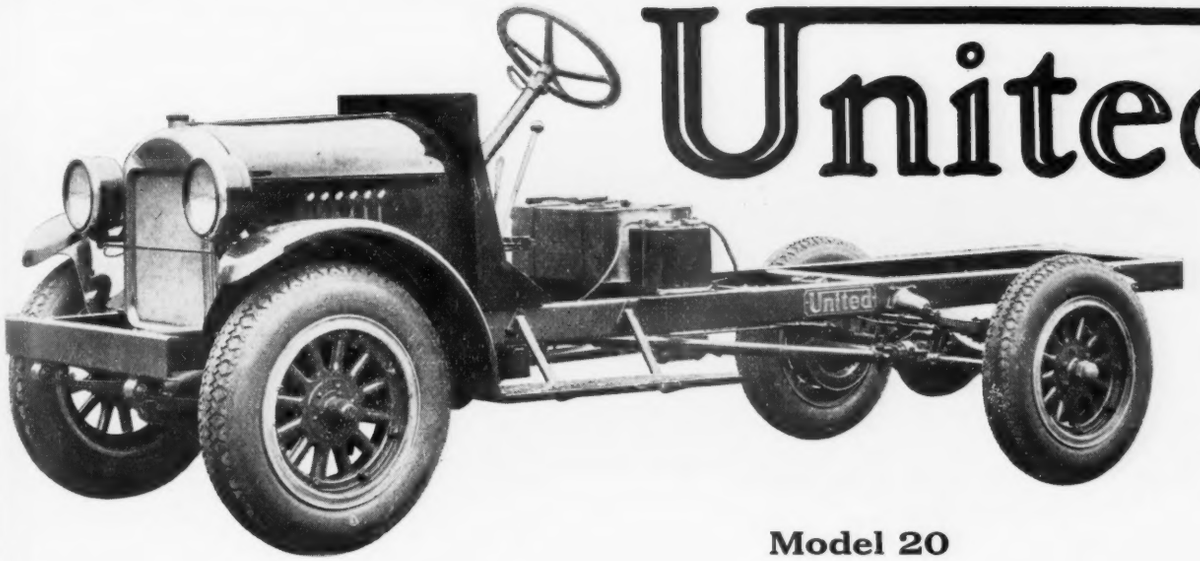
DETROIT MICHIGAN

Branches:

NEW YORK . CLEVELAND . CHICAGO

Over 1100 Service Stations

United



Model 20

Specifications in brief

Capacity	One to one and one-quarter tons.
Wheelbase	130". Tread 56".
Engine	Special 4" bore x 5" stroke. Four cylinder en bloc. Develops 30 actual horsepower at 1000 r.p.m.
Radiator	United heavy pressed steel shell, spring mounted.
Electrical Equipment	American Bosch or Auto-Lite starting and lighting with battery ignition. Willard 6-volt battery.
Carburetor	Zenith improved double venturi fixed jet type.
Clutch and Transmission	Brown-Lipe sliding gear. Three speeds forward. Multiple dry disc clutch.
Propeller Shaft	Single 2" alloy steel tubing.
Axle	Clark semi-floating bevel gear drive with roller bearings throughout. One piece cast steel housing.
Springs	Front, 6 plates 2¼" wide, 39¾" long. Rear, 10 plates 2¼" wide, 46¾" long. Chrome-vanadium steel.
Frames	Rolled steel channel 5" deep, 2¾" flange, 3/16" stock. Length overall 190½", width 32".
Tires	30 x 5 pneumatic front and rear.
Color	Standard—running gear and wheels United Burnt Orange. Hood, radiator, dash and fenders baked black enamel.

Dealers — Write for information on the United complete line.

United Motors Products Company

Grand Rapids, Mich.

QUALITY TRUCKS SINCE 1910

REG. U.S. Mack PAT. OFF.

1900-1925

for profitable Transport service

For a full quarter century Mack interests have been centered upon the manufacture of Motor Freight Carrying Vehicles and Motor Buses.

Throughout the United States, Canada and in all foreign countries where representation has been established, experienced truck and bus buyers look upon MACK as an investment that not only has a twenty-five year background, but one produced by an organization whose manufacturing and selling policy has been consistent and whose plant expansion and earnings have kept a conservative balance. In short:—To those with experience a sound investment and a MACK are one.

MACK TRUCKS, Inc.

INTERNATIONAL MOTOR COMPANY

25 Broadway, New York City

Ninety-five direct MACK factory branches operate under the titles of: "MACK-INTERNATIONAL MOTOR TRUCK CORPORATION" and "MACK MOTOR TRUCK COMPANY."

MACK TRUCKS · MACK BUSES · MACK FIRE APPARATUS · MACK RAIL CARS

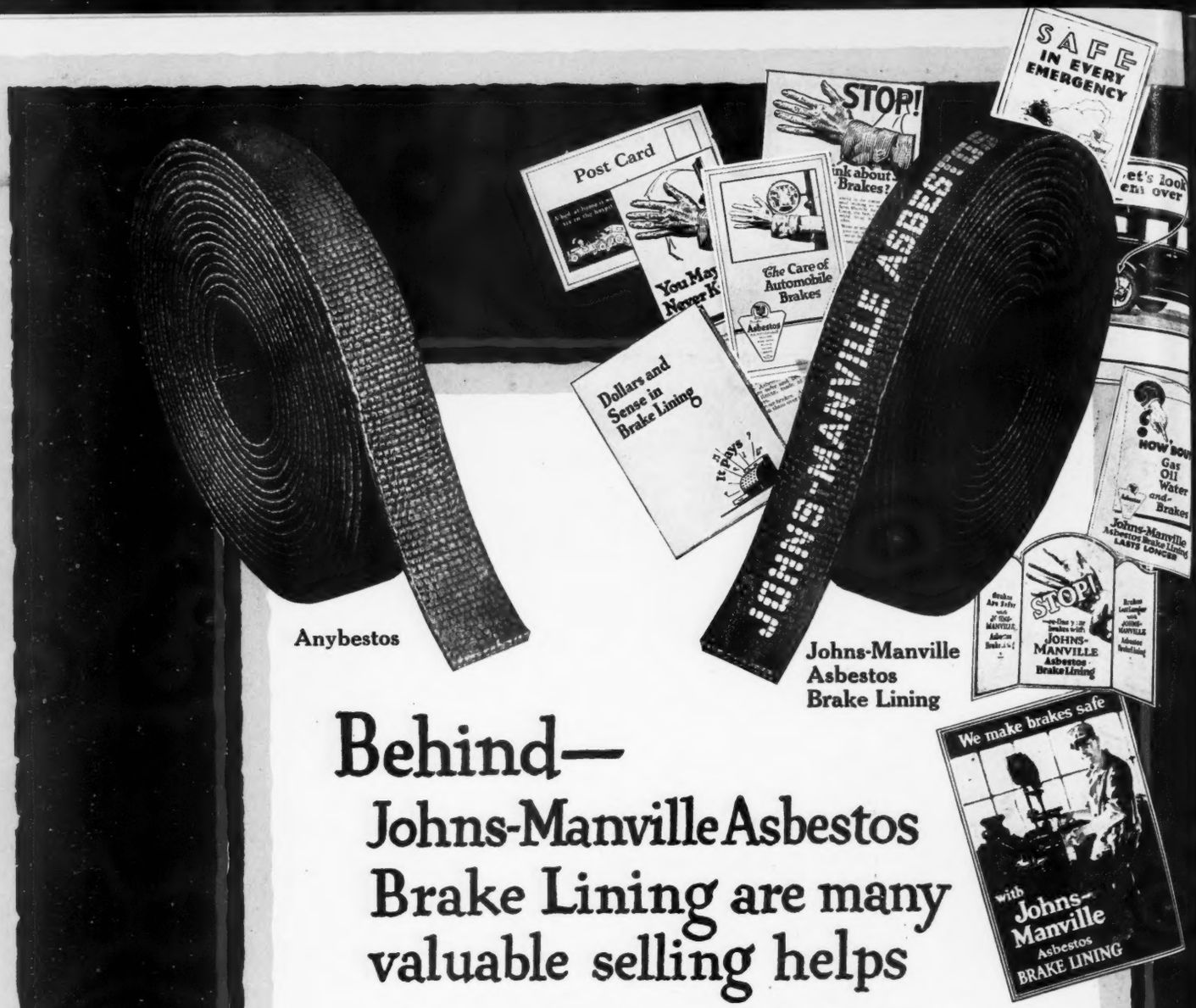
PERFORMANCE · COUNTS

Anybestos

Johns-Manville
Asbestos
Brake Lining

What's the difference between these two brake linings

(See next page)



Behind—

Johns-Manville Asbestos Brake Lining are many valuable selling helps

IT is easy to choose between a good brake lining and a bad one. How about choosing between two brake linings both of which you consider good?

The choice is just as easy!

Look behind the brake lining and see what the manufacturer is doing to help you sell it—not only with advertising materials, but with ideas that bring in brake lining business.

We make Johns-Manville Asbestos Brake Lining as good as we know how. In addition to that, we have put behind it a group of selling helps, which, if properly used, should put new lining on every car that needs it within driving distance of your garage.

Our book "Dollars and Sense in Brake Lining" tells how. Send for your copy.

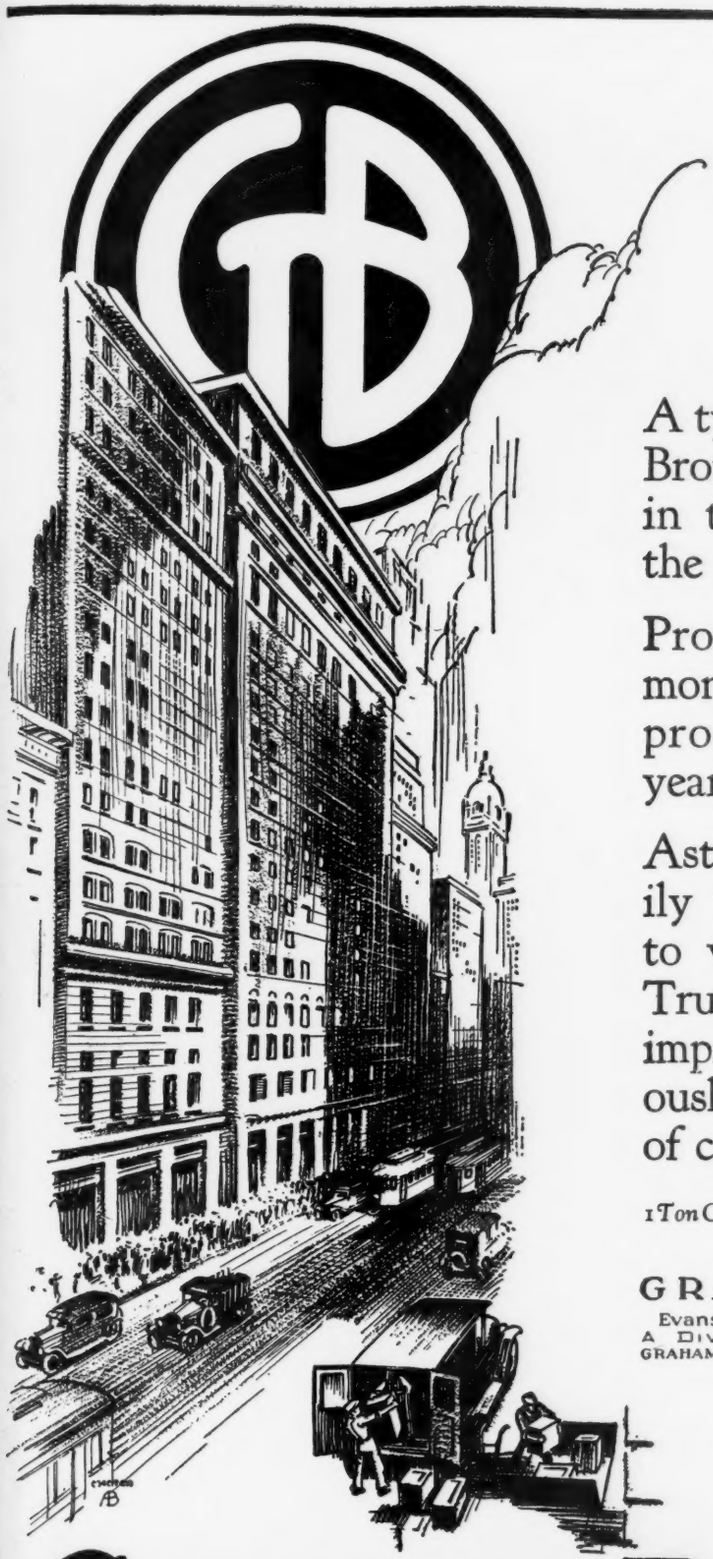
JOHNS-MANVILLE

JOHNS-MANVILLE INC., 292 Madison Avenue at 41st Street, New York City
Branches in 63 Large Cities For Canada: Canadian Johns-Manville Co., Ltd., Toronto

ASBESTOS BRAKE LINING
CLUTCH FACINGS ~ PACKINGS ~ ETC.

Printed in U. S. A.

Asbestos
and its allied products
INSULATION
BRAKE LININGS
ROOFINGS
PACKINGS
CEMENTS
FIRE PROTECTION PRODUCTS



Growth

A typical example of Graham Brothers remarkable progress in the truck industry was the month of September.

Production for this single month was 171 per cent of production for the entire year of 1921.

Astonishing growth, yet readily understood by owners, to whom Graham Brothers Trucks have brought vastly improved service simultaneously with a sharp reduction of costs.

1 Ton Chassis, $995; 1½ Ton Chassis, $1280; f. o. b. Detroit

GRAHAM BROTHERS
Evansville – DETROIT – Stockton
A DIVISION OF DODGE BROTHERS INC.
GRAHAM BROTHERS (CANADA) LIMITED–TORONTO, ONTARIO

GRAHAM BROTHERS TRUCKS

SOLD BY DODGE BROTHERS DEALERS EVERYWHERE

It's the tough high profiled studs, placed in staggard formation, that give the cog-like grip of all road surfaces *to*

REPUBLIC
STAGHOUND
TRUCK TIRES

which renders immune to the dangers and difficulties of winter hauling the trucks equipped with these long wearing tires

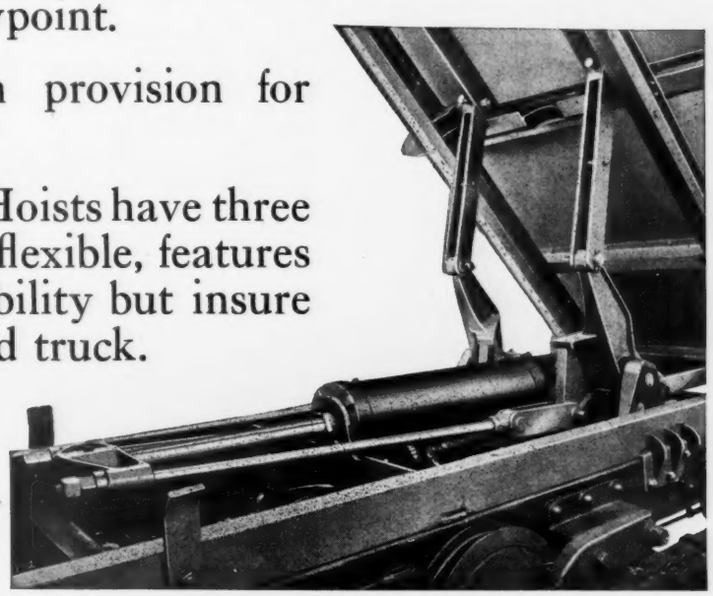
LEE TIRE & RUBBER CO.
REPUBLIC DIVISION
FACTORIES~CONSHOHOCKEN, PA., AND YOUNGSTOWN, OHIO.

Four White trucks owned by the Revere Transportation Company, St. Louis, Mo., equipped with St. Paul Heavy Duty Underbody Hydraulic Hoists

The ease with which St. Paul Hydraulic Hoists are manipulated, and the smoothness of operation are outstanding features in their favor from an economical viewpoint.

No other Hoist has built in provision for unequal loading of the body.

St. Paul Underbody Hydraulic Hoists have three point suspension, and are fully flexible, features which assure not only dependability but insure durability, both in the Hoist and truck.



The name "St. Paul" stands for dependability and durability

Close-up view of a Heavy Duty St. Paul Underbody Hydraulic Hoist. Note the rugged construction of the lifting links and levers

HYDRAULIC HOIST MANUFACTURING CO.

FACTORIES at St. Paul, Minnesota **DISTRIBUTORS and SERVICE STATIONS Everywhere**

Write for Name and Address of One Nearest You

St. Paul

VERTICAL AND UNDERBODY
HYDRAULIC HOISTS

BEHIND every Buda engine there are forty-four years of successful engineering experience. Something the owner doesn't pay for, but something that pays the owner—in extra mileage, low cost of operation, exceptional performance.

THE BUDA COMPANY, HARVEY CHICAGO SUBURB ILLINOIS
ESTABLISHED 1881

Buy only genuine Buda Parts for your Buda engine

BUDA
The
ENGINE

The U. S. Army Has Its Eye on

The New **ECONOMY** *Model* **MASTER TRUCKS** *with Latest* **JACKSON** *Oil Engine*

NORMOTYLE

SPEEDOMETER

THE ARMY MOTOR TRANSPORT GAZETTE

Fifth Year—No. 1

FLAT RATE SYS

SWAP UNITS TO CUT TIME CARS IN SHOP

REPAIR ALL CARS LOCALLY

October 1, 1925

ARMY TESTS NEW MOTOR AT HOLABIRD

Engine Will Run on Either Kerosene, Crude Oil, Alcohol or Gasoline

TRIED IN STAND. B. TRUCK

By Geo. W. Lindahl.

CAMP HOLBBIRD, Md., Oct. 1, 1925.—The engineering section of the Army Motor Transport, Q M. Corps, at Camp Holabird has just completed a test of a new engine which will operate without carburetor adjustments on either gasoline, ke.osene, furnace oil or alcohol, and at a saving in fuel cost of about 60 per cent compared with the conventional engine using only gasoline as fuel.

Certain recommendations have been made by the army engineers with regard to general mounting dimensions and power characteristics which will enable the new type motor to be installed in a Standard B army truck, and when these changes have been made the engineering section will conduct laboratory trials and road tests with the new engine to determine its capabilities from a military standpoint.

In developing this engine the designers have kept in the foreground the idea of an internal combustion engine that would operate successfully and economically on cheap fuel as well as on gasoline. This has been accomplished without approaching the field occupied by the Deisel type engine in order to secure satisfactory results on as heavy fuel as furnace oil or distillate.

Vibration Is Reduced.

They have not overlooked the mechanical details of the development and have succeeded in conquering the problem of inherent vibration. In fact they have succeeded to such a degree that it is possible to stand an ordinary lead pencil on its end on the engine when running 1150 r. p. m. and pulling full load at that speed.

It is a four-cylinder, four-cycle, eight-pistoned engine. The pistons in each cylinder being opposed. In or-

—and so have Dealers Everywhere

Master Motor Truck Co.

CHICAGO ILLINOIS

TRADE MARK

Power Losses—and How To Avoid Them

On its way from combustion chamber to road, power is at the mercy of bore and stroke, connecting-rod and main bearings, alignment of shafts, universal joints, transmission and rear-axle gears, springs or radius rods, wheel bearings, and tires. Truly a formidable array to keep lubricated, adjusted, and in good working order!

But did you ever think of this: the power has to act on the head of the piston *first*. If it is dissipated through valve ports, because the valves are burned, cocked, warped, pitted, crusted over with carbon or otherwise incapable of sealing *perfectly*, you lose far more of your originally effective power right there than is ordinarily lost in the whole transmission system?

Proof? Simple enough; any *old* truck with worn gears and bearings will accelerate faster when its valves seal perfectly than a brand *new* truck when the valves do not.

Then why keep on regrinding valves that have outlived their usefulness? Put in a set of Thompson Silcrome Valves and really RE-NEW the engine power of your customer.

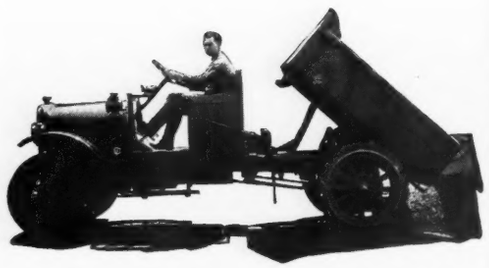
Thompson Silcrome Valves have, in many a practical test, resisted temperatures that quickly ruined ordinary valves — sealed perfectly for a much longer period — required far less frequent regrinding.

They are original equipment on sixty makes of airplanes, automobiles, trucks, tractors, and motorcycles; and are distributed to the replacement trade by leading jobbers.

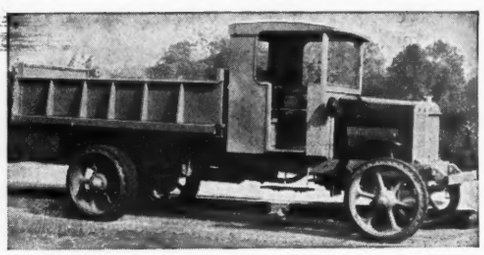
In ordering, ask for Thompson Silcrome Valves by name.

THOMPSON PRODUCTS, INC., CLEVELAND
Also manufacturers of King Bolts, Tie-Rod Bolts, Spring Bolts, Bushings, Tappets and Starting Cranks
EXPORT DEPARTMENT: 130 West 42nd Street, New York, U. S. A.
Cable Address: "THOMPRO—NEW YORK"

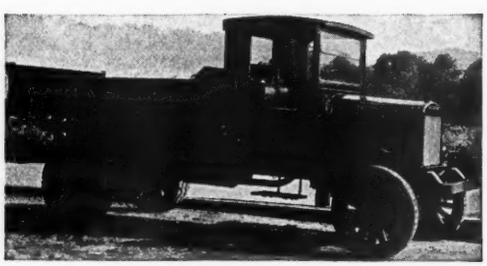
Thompson
Silcrome Valves



Gravity dump—2 yards capacity. Short wheelbase—easily handled. A leader in concrete road building.



3½ ton capacity with dump body. A favorite with many road builders.



5 ton capacity with dump body. A leader in the heavy-duty, high-speed class.

First Aid to Good Roads

THE building of good roads requires the use of good trucks—trucks that stand up year after year under the most gruelling tests of speed and heavy hauling.

SCHACHT Ten Speed Trucks, from 1 to 7½ tons, have for many years been the first choice of road contractors and state highway departments. They "pave the way" to reduced road building costs.

Many important and exclusive features of SCHACHT Trucks are of tremendous advantage in road construction. Unusual durability, ample reserve of power, Ten Speed transmission giving both flexible and fast handling, are some of the qualities that insure increased earning capacity.

Folder "C" will bring facts and figures of interest to Truck Distributors.

The G. A. Schacht Motor Truck Company

"Pioneers in Motor Transportation"

Cincinnati, Ohio

New York Branch: 220 Thirteenth St. Long Island City

New Jersey Branch: 400 New St. Newark

SCHACHT

Ten Speed TRUCKS

STRENGTH—LIGHT WEIGHT—DURABILITY

Schacht *uses* DAYTONS

When a 3½ ton truck carries 5 tons of pay load smoothly, swiftly and safely, whenever and wherever you want it to go, it must have abundant power and great reserve strength. That's the feature of the Schacht Truck.

The Schacht 3½ ton truck shown above is equipped with Dayton Steel Wheels. Like the Schacht Truck, Dayton Steel Wheels have great reserve strength. It's not only the natural strength of electric furnace steel, but the exclusive, broad arched construction, which explains the super-strength of Dayton Steel Wheels. Hub, rim and spokes are hollow. There you have light weight with super-strength.

Banish wheel troubles—increase the life of your trucks by specifying Dayton Steel Wheels.

THE DAYTON STEEL FOUNDRY COMPANY, Dayton, Ohio

Dayton
Steel Truck Wheels
PATENTED

TIRE ECONOMY—ACCESSIBILITY—APPEARANCE

**Figures show that Department Stores have invested over $3,000,000 in Walker Electric Trucks—
the Dairy Industry over $2,500,000—
Bakers over $2,000,000—
and Central Stations over $2,500,000.**

That makes a total of more than $10,000,000 for four lines of business. These, as well as others, began with several companies buying one or two Walkers. Repeat orders quickly followed, and other companies began buying.

Millions more have been invested in Walker Electric Trucks by laundries, chain-stores, wholesale grocers, meat packers, textile manufacturers, coal and ice dealers, and other lines. They all found that money spent for Walker Electric Trucks was a good investment.

We can tell you much of interest about Walker Electric Trucks that will profit you in your business. We invite you to write us. Your letter will receive immediate attention.

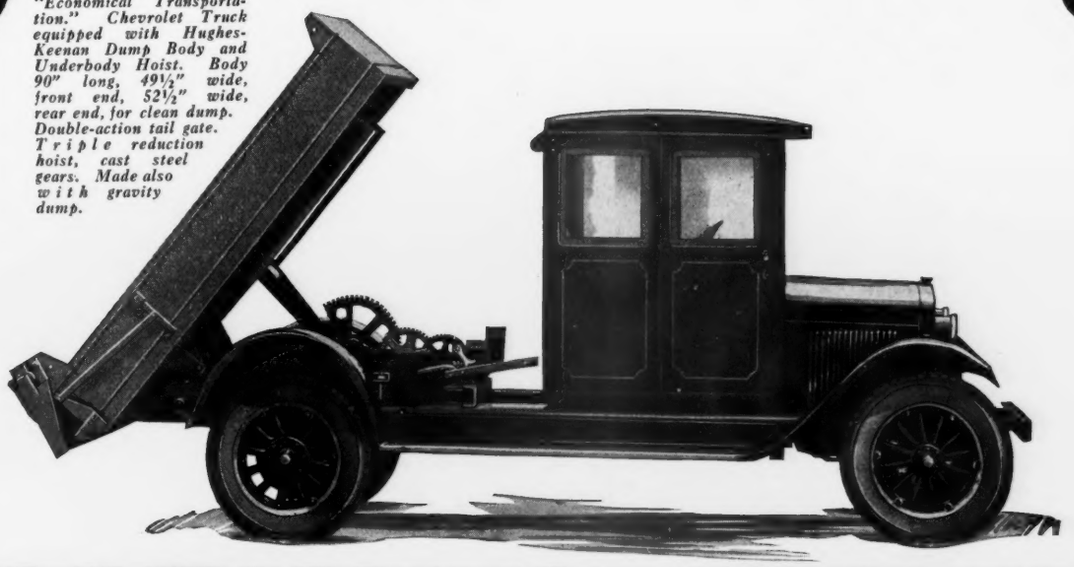
WALKER
VEHICLE COMPANY

LEADING MANUFACTURER OF ELECTRIC STREET TRUCKS

CHICAGO

WALKER ELECTRIC TRUCKS

LOWEST TRUCKING COST ON CITY ROUTES



"Economical Transportation." Chevrolet Truck equipped with Hughes-Keenan Dump Body and Underbody Hoist. Body 90" long, 49½" wide, front end, 52½" wide, rear end, for clean dump. Double-action tail gate. Triple reduction hoist, cast steel gears. Made also with gravity dump.

A Brute for Fast Work!

EXTRAORDINARY endurance—load after load, day after day, months on end, as long as the truck lasts—no break down, no wear-out, no delays—this is the service you sell with Hughes-Keenan Dump Bodies.

They're built for fast work on brutal jobs. For instance, the Underbody Hoist on Chevrolet Truck pictured above: an easy spin of the handle on the triple-reduction hoist, a jerk of the tail gate lever—dump full load in 5 seconds. And every part—steel body, cast steel gears, double-acting gate, every part—is made honestly of steel more than tough enough for the hardest service.

This is why Hughes-Keenan Dump Bodies are low in cost and easy to sell. They haul more loads per dollar of purchase price; and economy can't be figured any other way.

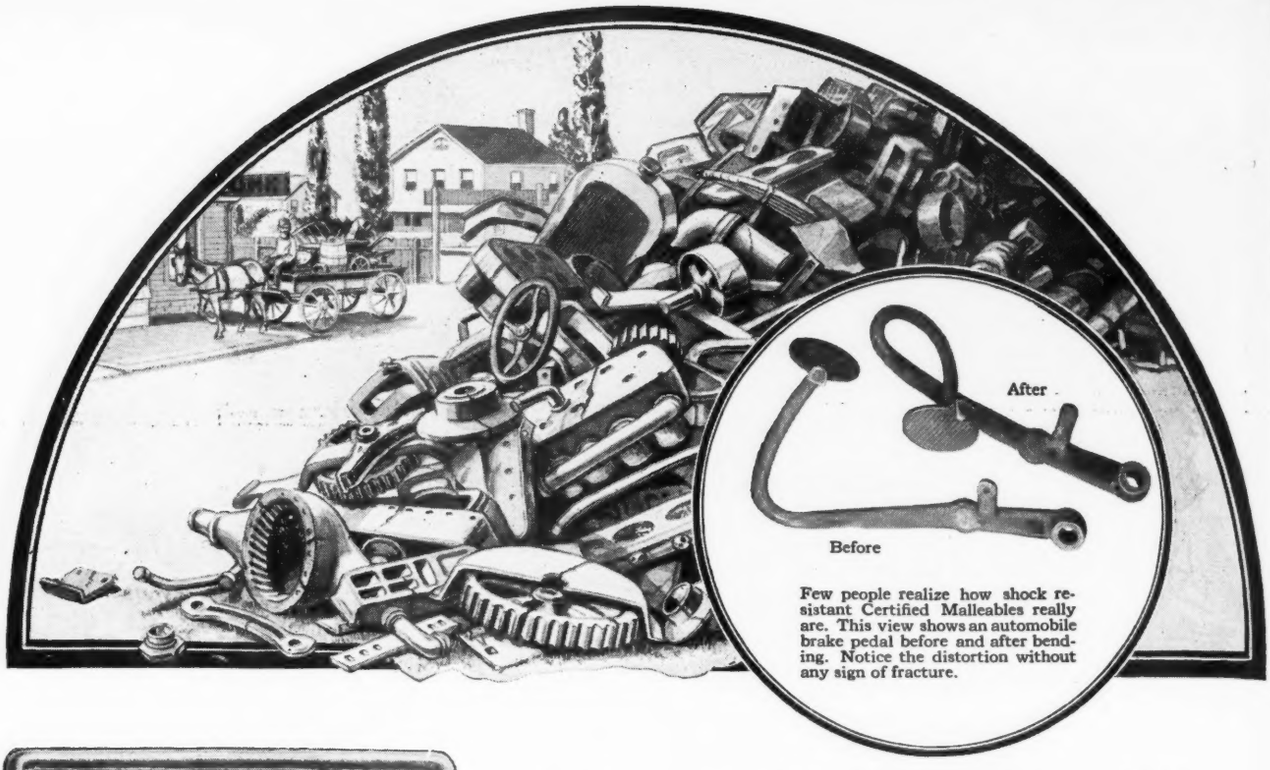
A complete line of gravity, vertical and underbody hoists with various types of steel bodies for light trucks. Write for information.

At the Road Show

Visit our exhibits at Booths N. B. 20 and N. C. 10 and see for yourself the extraordinary endurance built into Hughes-Keenan Dumping Equipment.

THE HUGHES-KEENAN CO., Box 21, MANSFIELD, OHIO

HUGHES-KEENAN
Steel Truck Bodies



Few people realize how shock resistant Certified Malleables really are. This view shows an automobile brake pedal before and after bending. Notice the distortion without any sign of fracture.

Certificate Holders for the Quarter Ending Sept. 30, 1925

Albany Malleable Iron Co. — Voorheesville, N. Y.
Albion Malleable Iron Co. — Albion, Mich.
American Chain Co. — Bridgeport, Conn.
American Malleable Castings Co. — Marion, O.
American Malleables Co. — Lancaster, N. Y. and Owosso, Mich.
Badger Malleable & Mfg. Co. — South Milwaukee, Wis.
Baltimore Malleable Iron & Steel Casting Co. — Baltimore, Md.
Belle City Malleable Iron Co. — Racine, Wis.
Chain Belt Co. — Milwaukee, Wis.
Chicago Malleable Castings Co. — West Pullman, Chicago, Ill.
Columbia Malleable Castings Co. — Columbia, Pa.
Columbus Malleable Iron Co., The — Columbus, O.
Danville Malleable Iron Co. — Danville, Ill.
Dayton Malleable Iron Co. — Dayton, O., Ironton, O., and Canton, O.
Decatur Malleable Iron Co. — Decatur, Ill.
Devlin Mfg. Co., Thomas — Philadelphia, Pa.
Eastern Malleable Iron Co., The — Naugatuck Malleable Iron Works, Naugatuck, Conn.; Bridgeport Malleable Iron Works, Bridgeport, Conn.; Troy Malleable Iron Works, Troy, N. Y.; Wilmington Malleable Iron Works, Wilmington, Del.; Vulcan Iron Works, New Britain, Conn.
Erie Malleable Iron Co. — Erie, Pa.
Federal Malleable Co. — West Allis, Wis.
Fort Pitt Malleable Iron Co. — Pittsburgh, Pa.
Frazer & Jones Co. — Syracuse, N. Y.
General Electric Co. — Erie, Pa.
Glancy Malleable Corporation — Waukesha, Wis.
Illinois Malleable Iron Co. — Chicago, Ill.
Iowa Malleable Iron Co. — Fairfield, Ia.
Kalamazoo Malleable Iron Co. — Kalamazoo, Mich.
Laconia Car Co. — Laconia, N. H.
Lakeside Malleable Castings Co. — Racine, Wis.
Link-Belt Co. — Indianapolis, Ind.
Marion Malleable Iron Works — Marion, Ind.
Moline Malleable Iron Co. — St. Charles, Ill.
National Malleable & Steel Castings Co. — Cleveland, O., Chicago, Ill., Indianapolis, Ind., Toledo, O., E. St. Louis, Ill.
Northern Malleable Iron Co. — St. Paul, Minn.
Northwestern Malleable Iron Co. — Milwaukee, Wis.
Peoria Malleable Castings Co. — Peoria, Ill.
Pittsburgh Malleable Iron Co. — Pittsburgh, Pa.
Rhode Island Malleable Iron Works — Hillsgrove, R. I.
Rockford Malleable Iron Works — Rockford, Ill.
Ross-Meehan Foundries, The — Chattanooga, Tenn.
St. Louis Malleable Casting Co. — St. Louis, Mo.
Saginaw Malleable Iron Co. — Saginaw, Mich.
Standard Malleable Castings Co. — Terre Haute, Ind.
Stowell Co., The — South Milwaukee, Wis.
Superior Steel Castings Co. — Benton Harbor, Mich.
Symington Co., The — Rochester, N. Y.
Temple Malleable Iron & Steel Co. — Temple, Pa.
Terre Haute Malleable & Mfg. Co. — Terre Haute, Ind.
Trenton Malleable Iron Co., The — Trenton, N. J.
Union Malleable Iron Co., The — E. Moline, Ill.
Vermilion Malleable Iron Co. — Hooperston, Ill.
Wanner Malleable Castings Co. — Hammond, Ind., and Beloit, Wis.
Warren Tool & Forge Co. — Warren, O.
Webster Mfg. Co., The — Chicago, Ill.
Wisconsin Malleable Iron Co. — Milwaukee, Wis.
York Mfg. Co. — York, Pa.
Zanesville Malleable Co. — Zanesville, O.

Reduce the Nation's Scrap Pile By Using Certified Malleable Iron

EVERY piece of metal in this scrap pile could tell a story of breakage, disappointment and expensive delay. Disrupted train schedules, costly wrecks, expensive harvest delays, dangerous breakdowns of trucks and motor cars, and failures of vital parts in all classes of machinery represent an annual waste of time and money that runs into many millions of dollars.

Most of this waste could be prevented by the more liberal use of Certified Malleable Iron which is strong enough and durable enough to resist breakage and insure absolute safety.

Certified Malleable Iron will stand more shock and abuse without breakage than any other ferrous material. Therefore, it should be used wherever parts must withstand shock and vibration, where breakage must be eliminated and where time saving is essential.

Certified Malleable Iron is the product of those plants who receive a quarterly certificate of merit from the consulting engineer of the American Malleable Castings Association; certifying that their product has met his exacting physical tests and that their plant practice, as shown by rigid inspection, insures the production of uniform malleables of the highest quality and integrity.

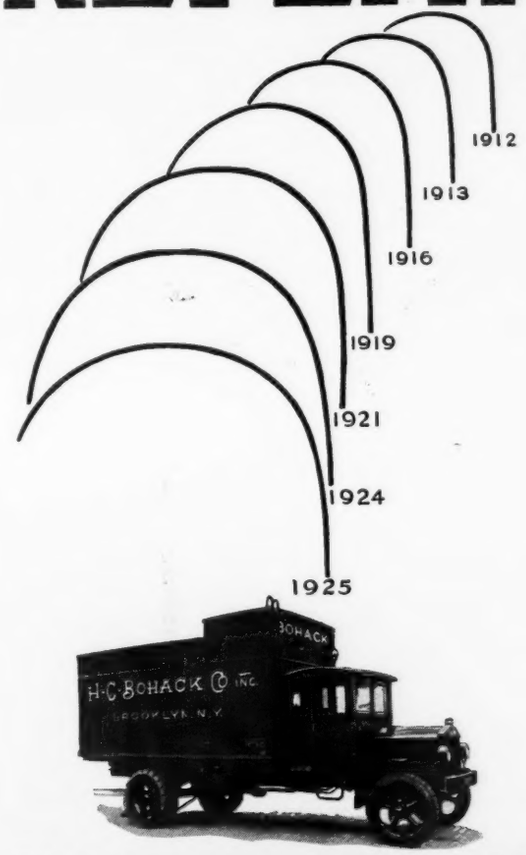
AMERICAN MALLEABLE CASTINGS ASSOCIATION
UNION TRUST BUILDING CLEVELAND, OHIO

POSITIVE PHYSICAL PROPERTIES AcA CERTIFIED TRADE MARK

CERTIFIED-MALLEABLE CASTINGS

GARFORD

REPEAT BUSINESS *thru 13 years!*



The latest purchase by H.C. Bohack Co.

—is a sure sign of the faith and confidence that H. C. Bohack Company of Brooklyn, have in the Garford product.

Hundreds of Garford fleets throughout the country have grown from a single Garford. For many years Garford has established a record in furnishing fleet users with equipment that exactly meets their transportation requirements.

Through this ability repeat business has resulted. The Garford Franchise is daily becoming more and more valuable to Merchandisers of Motor Transportation units.

Garford trucks are money makers for both the dealer and user.

The Garford Motor Truck Company

Member Motor Truck Industries, Inc.

LIMA, OHIO

THE SERVICE RENDERED FOR H. C. BOHACK CO. BY GARFORDS PURCHASED IN 1912 BROUGHT REPEAT BUSINESS AS SHOWN IN THIS FLEET

Dollars in Doughnuts—with Spads!

Here is the delivery fleet, and the fleet delivery, of the Dawn Donut Company, Pittsburgh, Pa. — makers of life-preserver-shaped pastry exclusively. The need for so many trucks indicates good doughnuts. This letter from Mr. P. C. Funaro, the company's manager, indicates good trucks . . .

"I have been using your trucks for the past year or so . . . I want to say that the Overland half-ton truck has been the most efficient of any I have had. *There will never be another make for my business.*"

Short and to the point. Terse praise for service well rendered. But—nothing unusual. Spads all over the country, individually and in fleets, are giving their owners just that type of service, year in, year out. You naturally expect efficiency in a Willys-Overland product — the Spad provides it!

More than likely Spads can solve *your* delivery problems. There is an Overland dealer near you. Talk it over.

Write us for the "Cost of Operation Data Book". Tells you how to keep accurate figures on your operating costs.

WILLYS-OVERLAND, INC., TOLEDO, OHIO

WILLYS-OVERLAND SALES CO. LTD., TORONTO, CAN.

SPEED POWER AND DURABILITY

A truck that contractors prefer, must have *Power, Speed and Endurance*

THE gruelling race against schedule tries the builder of the monuments of our headlong civilization.

It tests his machines, his tools, his engines, his trucks—particularly his trucks of which the very nature of his work exacts the wearing, brutal requirements of speed, power and load capacity.

Because Republic Trucks have these requirements with that ever-useful added measure of surplus-in-reserve, they enjoy a reputation with contractors that is significant of Republic service.

The reserve power is one of the reasons that Lycoming Motors are used in Republic Speed Trucks and Busses. Combined with power, of course, are dependability, economy and the other attributes that it is logical to expect from an organization that has been making fine motors for fifteen years.

LYCOMING MANUFACTURING COMPANY
Makers of fine Fours, Sixes and Eights-in-Line
WILLIAMSPORT :: PENNSYLVANIA

LYCOMING *Motors*

Years Ahead in Automobile Motor Efficiency

BUCK TRUCKS

Modern Needs Have Created These New Standards

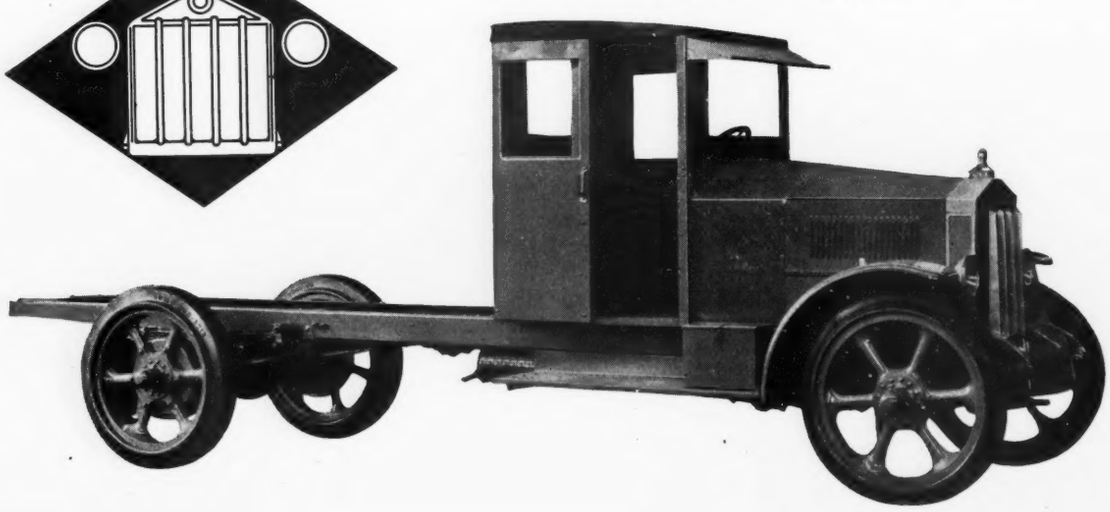
The demand for Buck Trucks rose out of the experience of truck users. Rapidly changing conditions called for a higher development of truck engineering. The outgrowth of that development is the Buck Truck.

Power, speed, dependability, economy are combined as never before. What was good enough two years ago is not good enough today. Today demands the new standard—Buck Trucks.

Ten models of 1½ to 7½ tons permit the dealer to satisfy every requirement of any customer. Two are 4-cylinder speed chasses, two 6-cylinder models with remarkable performance, six heavy-duty chasses having 7-speed-forward-2-reverse transmission.

Buck Trucks are sold through dealers exclusively wherever dealers are available. You will be interested in our proposition. Write us.

The Buck Motor Truck Company
Bellevue, Ohio, U. S. A.



SHULER

FRONT AXLES

From the very beginning, through many years of successful service to manufacturers, all the efforts of the Shuler organization have been concentrated upon the development and perfection of only one major unit—the Front Axle.

We realize that there is no major part more vital to the safety of any motor vehicle and its human or material freight, than the part we have chosen to make.

Appreciating the responsibility we assume, we have made a most careful study of the requirements in every field of Front Axle service which we have entered and have cooperated to the fullest degree with the manufacturers. Combining their ideas and experience with ours, we have developed our designs to meet their particular demands.

It is only logical and inevitable that such specialization in engineering and manufacturing, and such cooperation between manufacturer and parts-maker, should produce a distinctly superior Front Axle, which would meet every emergency and which would serve with equal assurance of safety and efficiency.

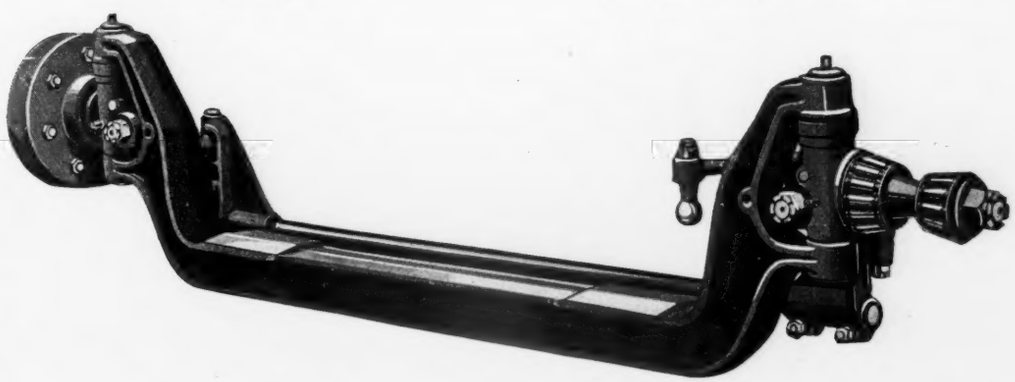
We are the originator and pioneer manufacturer of a Front Axle specially designed for motor-bus service—an axle now specified by the foremost designers and used by the leading manufacturers—a product that any manufacturer can stand behind and guarantee as if it were made in his own plant and under his own supervision.

We offer a complete line of Front Axles for motor - buses, motor trucks, tractors and trailers, embodying maximum efficiency in the product and real service in the factory behind it.

Our representatives, at the Vanderbilt in New York, and at the Blackstone in Chicago, will be glad to talk with manufacturers regarding their 1926 requirements—placing at your disposal all our resources and experience, and the complete cooperation of our engineering staff.

SHULER AXLE COMPANY, *Incorporated*

3003 Jones Street Louisville, Ky., U. S. A.



TIMKEN

TIMKEN
AXLES
first Worm Gear advertisement
ANNOUNCEMENT
Timken to make David Brown Worm Gears
David Brown & Sons, of England and TimKen-Detroit Axle Co., U. S. A., form International Alliance to manufacture and market worms and worm gears in America—Name of the new corporation is TimKen-David Brown Company, Detroit
TIMKEN
Simplicity
Strength
Long Life
Accessibility
Low Upkeep
Dead Silence
1925
THE TIMKEN-DETROIT AXLE CO., DETROIT, MICH.
AXLES

Time Tells

Since the days when worm gearing was new in America, Timken Axles have been demonstrating the superiority of worm drive. The perfect contour of Timken Worm Gearing, cut to the F. J. formula—plus exact assembly—has resulted in the very high mileage records and low upkeep universally found among users of Timken Axles. It is significant that it has never been necessary to change the fundamental design of the worm or worm wheel

THE TIMKEN-DETROIT AXLE CO., DETROIT, MICH.

AXLES

Duplex Serves the Lumber Business with Fidelity, Faithfulness and Economy

G. A. WILBUR, VICE-PRES. R. P. MCDONALD, SEC'Y-TREAS

CAPITOL CITY LUMBER CO.
INTERIOR AND EXTERIOR FINISH
LANSING, MICH.

September 25, 1925.

Duplex Truck Company
Lansing, Michigan.

We are glad to tell you our experience with our Duplex truck bought from you the past Spring. We have been using it continously since the purchase and find it entirely satisfactorily. We have in many instances loaded it beyond your recommended capacity but it always discharged the obligation placed upon it.

We have every confidence in the world in the durability and dependability of this truck and do not hesitate to recommend it to any prospective purchasers of a good motor truck.

Our faith in the truck is borne out by the fact that you now have an order from us for a second one of the same type.

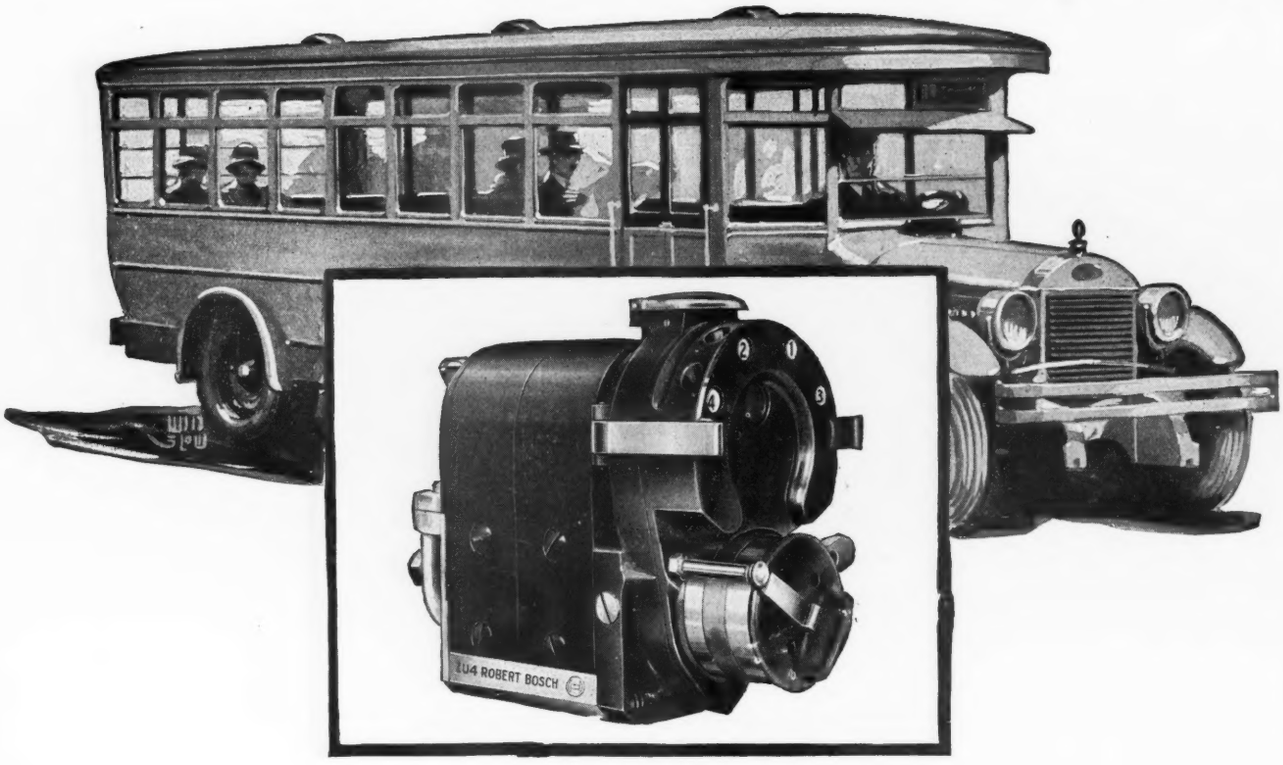
Yours very truly,
CAPITOL CITY LUMBER COMPANY
By O. P. Maner

WPK-EV

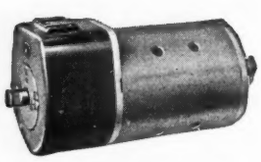
Duplex plays no favorites, one business is like another, for delivery in nearly all cases is made over the same kind of roads, and the quick, safe delivery of one kind of merchandise is as important as another.

"Dealers can sell trucks that owners recommend, and they do favor Duplex."

DUPLEX TRUCK COMPANY
LANSING, MICHIGAN



This finest of MAGNETOS will prove to be the cheapest, too



The *Original* Bosch generator replenishes the battery with "tapered" current. This constant voltage means an even balance of battery current at all times.

The *Original* Bosch Horn has won quick popularity among fleet owners, because of its penetrating, yet musical note, so different from the tone of other horns that it secures attention where other horns are unheeded.

YOU may be tempted to save a few dollars on initial cost by using a poor magneto. But remember this: Repairs on inferior magnetos quickly exceed the slightly higher first cost of *Original* Bosch. This finest of magnetos soon pays for itself by staying on the job day in and day out. Ask any automotive engineer or fleet owner who has tested *Original* Bosch Magnetos.

The same high quality that has made the *Original* Bosch Magneto world-famous is to be found in the whole line of *Original* Bosch products: generators, spark plugs, starters, horn, etc. Write for literature on any or all of these.

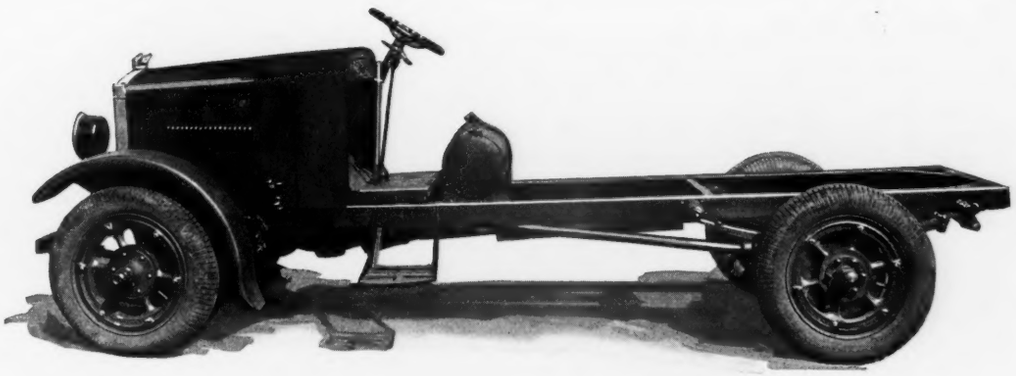
Robert Bosch Magneto Company, Inc., 119c West 64th St., New York City. Chicago Branch: 1302 South Wabash Avenue.

The Original Bosch

This trademark and the name "Robert Bosch" are your guaranty of Original Bosch quality as known the world over since 1887.

ROBERT · BOSCH · MAGNETO · COMPANY · INC.

No connection whatsoever with the American Bosch Magneto Corporation



SURE TO ENDURE

THE COMMERCE DISTRIBUTOR $1395

A PROFITABLE TRUCK TO SELL BECAUSE IT IS A PROFITABLE INVESTMENT FOR THE BUYER

The Commerce Distributor is built to endure—to stand up better over a longer period of time—and nothing that can be done to assure durability has been left undone by Commerce engineers.

It is built to stay out of the repair shop and on the road, and to keep on giving that brand of sterling, reliable service day after day, month after month, year after year.

Furthermore, it is built to out-perform—and it DOES out-perform by a wide margin.

Nowhere, for the sake of a low selling price, does Commerce compromise with quality. Commerce knows, and you know that such compromises must always result in high after-costs to the owner.

The up-to-date dealer wants to sell a motor truck which is modern in every respect; he wants a truck which stays sold and brings him repeat business—such a truck is attractive to him because he can accumulate PROFITS by selling it.

The Commerce Distributor is easy to sell. One demonstration of the Commerce Distributor to a prospect and he sells himself. He cannot resist the steady flow of power and the flexibility of the six cylinder motor. He likes its smooth speed on the highway. He can see that it is built to endure for years.

The big volume of truck sales is in the light six cylinder unit. Are you getting your share of that business?

Read the following specifications, then write or wire for details regarding the Commerce Franchise:

Cast Aluminum four-piece radiator shell; six-cylinder, 48 horsepower, Continental motor; Bosch Magneto ignition; Bosch starting and lighting; Ross easy-steer cam and lever steering gear; plate clutch—extra heavy transmission with ball bearings throughout; oil tight universal joints; Clark spiral bevel rear axle; Smith Steel Wheels; 30 x 5 cord tires all around; heavy heat-treated frame.

Commerce

COMMERCE MOTOR TRUCK COMPANY

YPSILANTI, MICHIGAN

Export Dept.: 132 Nassau St., New York City Cable: Comerstrux

MODEL SUPER 11
1½ TON

Continental S-4 motor. 4¼" bore x 4½" stroke. Spiral bevel gear rear axle. Radius rods. Wheelbase, 142 inches. Long wheelbase, 160 inches. Pneumatic cords, 34" x 5" front and 36" x 6" rear.

MODEL SUPER 14
2 TON

Continental S-4 motor. Timken worm drive. Standard wheelbase, 146 inches. Long wheelbase, 160 inches. Equipped with either solid or pneumatic tires.

MODEL 25
2½ TON

Continental K-4 motor, 4⅛" bore x 5¼" stroke. Timken worm drive. Standard wheelbase, 156 inches, special wheelbase, 144 inches or 176 inches. Solids or pneumatics.

POWERMATIC

Automatic power unloading truck. for lumber, building supplies, etc. Built on the model 25. Sold only as a completely equipped truck, including unloading mechanism and body.

Writers who mould automotive thought

Figures to Him Are the Key to Prophecy

JAMES H. COLLINS
Chilton Class Journal Co.
Merchandising Director

To most folks figures are just figures—nothing more. This does not apply to James H. Collins, head of the Merchandising Department of the Chilton Class Journal Company.

Figures to him mean a lot. They tell him a story of business conditions. Each group paints a significant picture. From them he reads the past, learns present trends and predicts the future. He long has reveled in figures and made them tell him facts which were not apparent to most people.

This ability has enabled him to make predictions about the automotive business, the accuracy of which was recently described by the general manager of the N. A. D. A. as being "uncanny." For several years, at meetings held during the New York show, he made predictions concerning the automobile business for the year on which they were entering which were laughed at by many. Subsequent events, however, showed him to be right and the skeptics wrong.

Because of this and the correctness of his many analyses of business conditions he frequently is called upon to address important meetings throughout the country. Announcement that Collins and his chart will be present is sure to produce a good turnout. Likewise, his articles, which appear in various Chilton Class Journal publications, are carefully read and frequently quoted, while reprints of them are in great demand from both executives and dealers.

Collins has a splendid background for the work he is now doing. He holds a degree of Bachelor of Science from Arkansas State University and has done important work for the government. Some years ago he was an investigator in market surveys for the Bureau of Markets. In 1918-19 he was put in charge of the importation and sale of nitrate of soda for the Department of Agriculture, operating under the Ford Control Act. Later he was head of the Motor Transport Division of the Department of Agriculture and was a member of the Highway Transport Committee, Council of National Defense.

All of this gave him a valuable experience and acquaintanceship with business men and conditions that are reflected in the remarkable work he has done along automotive lines.

This is one of a series of announcements dealing with the editorial strength of Chilton Class Journal publications. Each issue will carry a brief sketch of an editor or principal contributor to the group.

The purpose of this series is to place before you the facts about our editorial work so you may know its scope and magnitude and the ability, experience and attainments of the men whose articles you read in these publications.

Writers who mould automotive thought

A Technical Authority for a Quarter of a Century

It is no mean distinction to be regarded by the engineers of the automotive industry as an authority on technical matters. But when that enviable position covers a span of a quarter century it is a tribute to a man's worth that is practically without a parallel in this field.

P. M. HELDT
Engineering Editor
Automotive Industries

Such is the enviable position of P. M. Heldt, engineering editor of Automotive Industries. A quarter of a century ago men in the young and struggling industry were coming to him for advice on technical subjects. Today they are doing the same thing, and they have been doing it constantly from then to now.

Out of the rich storehouse of his knowledge Heldt has helped countless men with their problems. His advice has been of inestimable value to many. Because of the soundness of his thinking, his profound knowledge and his practical suggestions he is honored and respected by engineers and other influential men of the industry.

Heldt has a technical education and practical experience both in designing and shop work. For a while he represented the McGraw Publishing Company abroad, later becoming associate editor of Horseless Age, where he remained for 17 years. In 1917, he became engineering editor of The Automobile, now Automotive Industries, a position he is filling today with distinguished ability.

In addition to his editorial work, Heldt is the author of the most authoritative books published on automotive design, these being extensively used as text books in technical schools and in practical design work.

It is having the service of authorities like Heldt that makes the editorial staff of the Chilton Class Journal Company without a peer in the industry.

This is one of a series of announcements dealing with the editorial strength of Chilton Class Journal publications. Each issue will carry a brief sketch of an editor or principal contributor to the group.

The purpose of this series is to place before you the facts about our editorial work so you may know its scope and magnitude and the ability, experience and attainments of the men whose articles you read in these publications.

All the Readers of COMMERCIAL CAR JOURNAL

who are planning to attend the

GOOD ROADS SHOW IN CHICAGO

Beginning Week of Jan. 11th

are cordially invited to visit the booth of the

Chilton Class Journal Company

Number S B 17

We have planned a very novel and constructive surprise for you—one which will prove probably as interesting and entertaining as anything exhibited at the Show. Among other things you will see the BIGGEST COMMERCIAL CAR JOURNAL ever produced.

BAKER

Auto Truck

SNOW PLOWS

Fit Any Truck

A wonderful opportunity for owners of single trucks or fleets, to equip for winter service, clearing paths for their own use.

Equipped with Baker Patent Tripping Blade to safeguard plow and truck against damage from road irregularities. Furnished in straight blade and V Types. Insure big returns on small investment. See us at the Good Roads Show, Chicago, Coliseum Space NC6.

THE BAKER MANUFACTURING CO.

571 Stanford Avenue Springfield, Illinois

Powell Blow-Out Proof Mufflers

Our latest design for buses consists of one large muffler in the center and a small one on the rear end, to muffle the roar from the large tail pipe. Constructed so as to eliminate all excessive back pressure. To convince you, let us send you a sample for test purposes.

Our mufflers are standard equipment with all manufacturers who consider quality first.

Manufactured by

Powell Muffler Company

(Patented June 9, 1925, with others)

UTICA, NEW YORK

How to Put them On!

SPECIAL "Nace" twist gives a rope or rolling action. "Naceskids" are *insurance* against truck delays—truck damage.

Easy— Isn't It?

2 minutes On Off

There are other features just as important. The fastenings are drop-forged, hook-and-ring type—nothing mechanical to freeze or clog. All chains are hand wrought and fire welded. And there is nothing like a hand made chain for long wear or *sure traction.*

Write for further information. Don't miss this chance of ready, seasonable sales. Dealers write.

NACESKID *Service Chain* Company
Trenton, N. J.

Naceskid Distributors:

Seifert & Baime, Newark, N. J.
Goodrich Tire Service Co., Boston, Mass.
Serber Rubber Co., New York City
Foster, Miller & Bierly, Philadelphia, Pa.
Elmer Davies, Rochester, N. Y.
Becher Truck Tire Service Co., Buffalo, N. Y.
Warren Tire Stores Co., Portland, Me.
Commercial Tire Corp., Baltimore, Md.
Petry Motor Sales Corp., Trenton, N. J.
The Bittenbender Co., Scranton, Pa.
C. Y. Schelly & Bro., Allentown, Pa.
Harry Christensen & Son, Reading, Pa.

Tim Noonan, Wilmington, Del.
Sattel Auto Supply Co., York, Pa.
Dauphin Tire Service Co., Harrisburg, Pa.

Territory Still Open for 1925-1926

FISK
Transportation *Fillerless* Cords

A New Transportation Tire

Fisk Transportation Cords are now made with a new specially constructed fabric manufactured by The Fisk Rubber Company under their own patented process.

This new method of construction eliminates cross threads, controls the spacing and tension of the cords and uniformly surrounds the cords with rubber. This is called "Fillerless" fabric.

Exhaustive tests have shown the merits of this new fabric to withstand the hard usage that transportation work demands.

This new Fisk Transportation Fillerless Cord is being consistently advertised to bus and truck owners thru page ads in Saturday Evening Post, Collier's and Truck and Bus papers.

This remarkable new commercial tire is going to build profitable accounts for many commercial tire dealers.

We suggest you write us regarding the Fisk Franchise.

The Fisk Tire Company, Inc.
Chicopee Falls, Massachusetts

You Insure Against Both Fire and Theft —Why Not Wear?

Dixon's 677 may be obtained in steel drums with pump, providing a quick, clean means of lubricating gearboxes. A necessity in every garage and service station. Write for quotations.

Fire and theft threaten but once in a while, perhaps never. Wear ever stands ready to take toll of moving parts the moment their protection fails.

But, at least in the transmissions and differentials of your trucks this protection will never fail if you fill up with

DIXON'S 677

For this perfected graphite lubricant covers the gears entirely—always. It nullifies the abrasive action of metal particles and road dust inevitably found in gear boxes. It retains its original correct consistency under all conditions of heat and cold, and will not squeeze out under load.

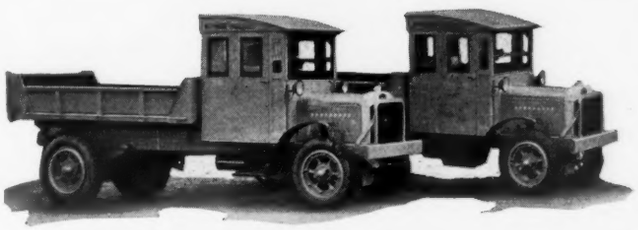
Give "677" a trial. Check up on less wear and tear, easier handling, gas economy. You'll be convinced.

Booklet 112-G and prices on request.

JOSEPH DIXON CRUCIBLE CO.
Jersey City, New Jersey
Established 1827

GRAMM
PIONEER
BERNSTEIN

A TRUCK WITH TWENTY-FOUR YEARS OF ENGINEERING EXPERIENCE TO ITS CREDIT



Let us tell you why it is a profitable investment for the operator.

Also, let us explain why our dealer franchise, which will include a full line of trucks for every conceivable need, plus a real sales plan, is a money maker.

WRITE

GRAMM-BERNSTEIN TRUCK CORPORATION

LIMA, OHIO

Jacks for All Types of Busses and Trucks

EQUIPPED WITH PNEUMATIC TIRES

The No. 18 DOUBLE-LIFT JACK

FOR BUSSES WITH LOW OVERHANGING BODIES

The modern bus must have a jack with a very low starting height in order to go under the axle when a tire is deflated. The handle of the jack must operate with a rotary motion (in order to avoid the low bus body) and be long enough so that the jack can be pushed into place and operated from behind the bus.

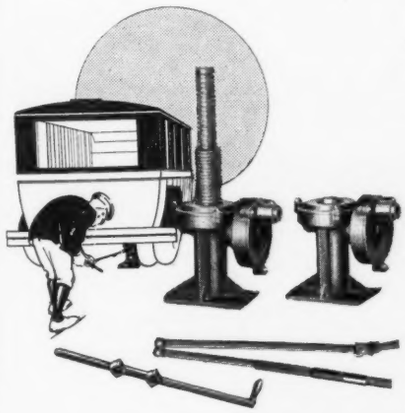
Notice how the following features of the No. 18 meet these requirements:

1st. Low starting height, 7 in.

2nd. Lift of 9 in. Total height, 16 in.

3rd. Long folding handle equipped with semi-universal joint which gives all the advantages of a universal joint but is rigid enough to place the jack in position.

4th. Both screws work together, twice as fast as ordinary jacks.



Specifications No. 18. Weight, 19 lbs. Lift, 5 tons. Height of Jack, 7" to 16". Screw Diam.: Outer, 1⅞"; Inner, 1¼".

The No. 12 DOUBLE-LIFT JACK

FOR HEAVY TRUCKS WITH PNEUMATIC TIRES

The axles on such trucks come close to the ground when a tire is flat, thus necessitating the use of a jack with a low starting height. The 10 inch lift of the No. 12 Reliable insures ample clearance for changing a tire.

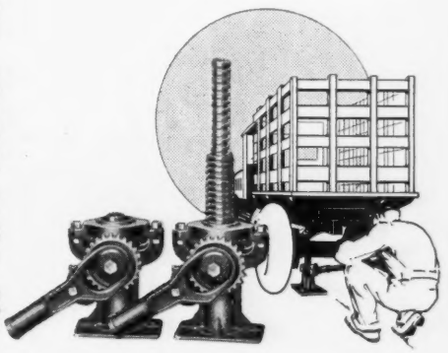
Since the bodies of trucks are high, the operator can insert any length handle desired in the socket of this jack.

This jack operates on the same principle as the No. 18 Bus Jack. The double-acting screws working together result in an unusually rapid jack.

Specifications No. 12. Weight, 17 lbs. Lift, 5 tons. Height of jack, 8" to 18". Screw Diam.: Outer, 1⅞"; Inner, 1¼".

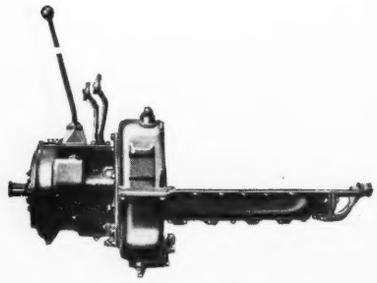
We will be glad to furnish prices and additional information upon request.

There is a sturdy Reliable Jack for every size car, bus and truck.



Elite Manufacturing Company (Dept. C. C.—12) Ashland, Ohio

RELIABLE JACKS



It Strengthens the Chassis

Just one look at the above photographic reproduction of Himico tells you the whole fundamental story.

Here is a sliding-gear transmission that actually transforms a Ford into an out-and-out, honest-to-goodness sliding-gear car or truck, from which ALL PLANETARY LIMITATIONS HAVE BEEN REMOVED.

Yet Himico, as you can plainly see, is in no sense a mere attachment. It becomes a BUILT-IN PART of the Ford chassis.

Himico provides a sturdy support for both power plant and transmission; at the same time permitting ready access to all main and connecting rod bearings, without removal of the engine from the frame. The engine legs, cast on flywheel housing, form a veritable backbone for the chassis.

Dealers find Himico simple to install. Everything fits. There is no need for sawing or other chassis butchery.

And Himico WORKS!

More mileage per gallon—greater comfort—less vibration—higher speeds—tremendously increased pull—and no more transmission band troubles!

Now is the time to start selling Himico. Dealers all over the world are installing them as fast as we can produce them. It's the big, proved sensation in Ford equipment. Write for our proposition today.

HINKLEY MOTORS, Inc.

P. O. Box J-839 Detroit, Michigan

(Builders of the famous Hinkley Heavy-Duty Automotive Engines)

HIMICO
TRANSMISSIONS
POWER PLANTS

Why Keep on Paying This Tax?

Everybody expects to pay some taxes, but why impose unnecessary taxes on yourself?

Do you realize that every time you drive your car on an unpaved highway you are actually taxing yourself one to four cents a mile?

This is the cost of increased repair, tire and gasoline bills.

Highway research has definitely established these facts.

Each year you tax yourself in this way a good many dollars.

Instead of spending this money for increased transportation costs, why not invest it in Concrete Highways and pay yourself some dividends?

Concrete Roads and Streets pay for themselves in the saving they effect on the cost of motoring.

Their maintenance cost is so low that this saving alone returns good dividends on the investment, year after year.

You are imposing an unnecessary tax on yourself from which you get no return, by failing to work for more Concrete Highways.

Not in a long time have general conditions been so favorable for carrying on such public works as permanent highway building.

Your highway authorities are ready to carry on their share of this great public work. But they must have your support.

Tell them you are ready to invest in more Concrete Highways, now.

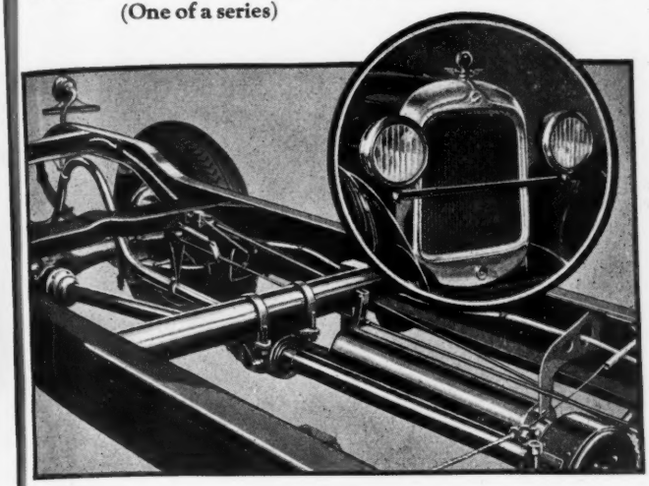
PORTLAND CEMENT ASSOCIATION

A National Organization to Improve and Extend the Uses of Concrete

Atlanta	Dallas	Kansas City	New York	Salt Lake City
Birmingham	Denver	Los Angeles	Oklahoma City	San Francisco
Boston	Des Moines	Milwaukee	Parkersburg	Seattle
Charlotte, N. C.	Detroit	Minneapolis	Philadelphia	St. Louis
Chicago	Indianapolis	Nashville	Pittsburgh	Vancouver, B. C.
Columbus	Jacksonville	New Orleans	Portland, Oreg.	Washington, D. C.

USERS OF SPICER PROPELLER SHAFTS

(One of a series)



The new Studebaker Bus Chassis

STUDEBAKER engineers, after studying bus operation from all angles, decided to concentrate upon building chassis of 12 to 18-passenger capacity.

The object is to eliminate empty seats; to fill each bus to capacity [or near-to-capacity] and run on frequent schedule. With more miles to travel per year than big buses making fewer trips, the small bus will need endurance in every part.

Studebaker bus chassis are designed for dependability with low first cost, low operating and low upkeep expense. Having the wisdom that comes with wide experience, Studebaker selected

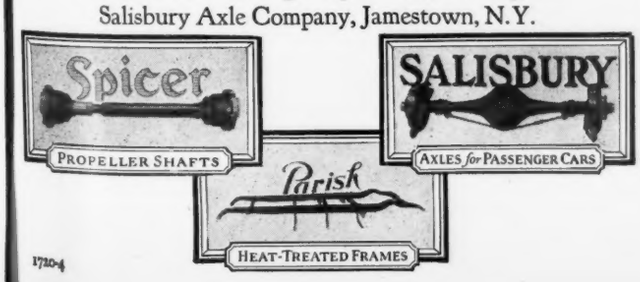
Spicer Propeller Shafts

to help accomplish these aims.

They are in excellent company. Nearly all manufacturers of well-built buses have adopted Spicer Universals for similar reasons. And fleet owners who draw their own specifications are standardizing on Spicer equipment as fast as comparative tests show them the facts.

Associated Spicer Companies

Spicer Manufacturing Corporation, South Plainfield, N. J.
Parish Manufacturing Corporation, Reading, Pa.
Salisbury Axle Company, Jamestown, N.Y.



17204

EVERY TIME YOU SEE THIS:——

Make a note of the name and address of the truck owner. Send for McGarry literature, give it a careful reading, then hunt up this truck owner and tell him that you can effect a big saving in truck overhead and wages for him by installing a

McGARRY
PATENTED
LUMBER LOADER & UNLOADER

There's Money in it for You!

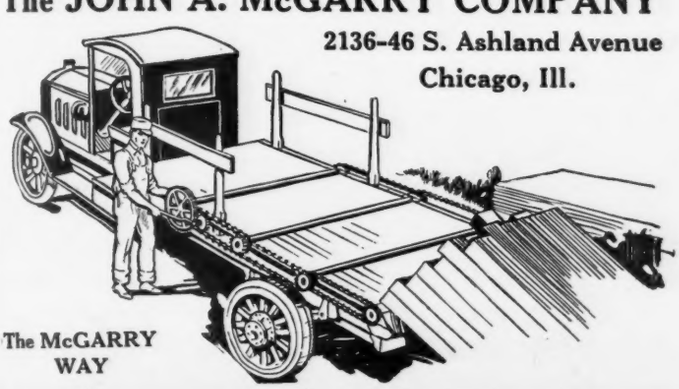
The McGarry Loader can be loaded or unloaded in a fraction of the time it ordinarily takes to do the same operation by hand. It reduces the number of men needed and thus saves on wages. It keeps equipment moving and thus makes possible a greater number of loads per day. And it works just as effectively on a trailer as on a truck, and saves even more time, for with a trailer and truck two cargoes can be loaded and unloaded in less time than it would take to load the truck alone by old-style methods.

The McGarry Loader operates on four rollers connected with cotter-pin chains (tested to 5000 lbs.) and **OPERATE IN UNISON** by turning one safety crank with 3 to 1 gear ratio. This reduction enables one man to handle six or seven tons with ease.

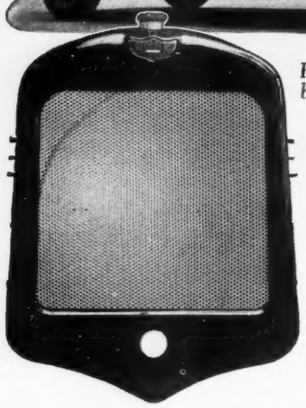
McGARRY REPRESENTATION can easily be made quite profitable. The sooner it begins, the sooner the profits come in. Why not write now?

The JOHN A. McGARRY COMPANY

2136-46 S. Ashland Avenue
Chicago, Ill.



The McGARRY WAY



Republic is one of several well-known bus builders using Perfex Radiators

The O.K. of 100 Skeptics

More than a hundred well known industrial and automotive engineers have put an okeh on Perfex Bronze-Core radiator construction and the amazing strength of its cross-braced design.

These engineers are designers and builders of equipment that is known throughout the world for quality construction and long, dependable service. When these men specify Perfex Radiators for over 100 different makers, you know that choice is based on tests covering every phase of motor operation.

We have an array of facts about design and efficient cooling which should be of interest to every engineer. It covers the results of 15 years' successful experience in automotive and industrial cooling and includes a brief plan for putting our service at your disposal.

Our engineering department will gladly collaborate with your own or offer a complete designing service if desired. Write us, placing your problems before us.

RACINE RADIATOR COMPANY, *Racine, Wis.*

PERFEX

THE PERFECT RADIATOR

Gotfredson

WHEREVER Gotfredson branches or dealers are established the familiar red Gotfredson trade-mark soon becomes conspicuous in the industrial and commercial life of those communities. The unmatched performance records and low operating costs of Gotfredson Trucks quickly win the confidence of all classes of truck buyers.

An investigation of the complete financial and manufacturing facilities behind Gotfredson Trucks will interest you who seek a high-grade sales franchise.

Gotfredson Corporation

MOTOR TRUCK DIVISION

3601 Gratiot Avenue

Detroit, Michigan.

HEAT

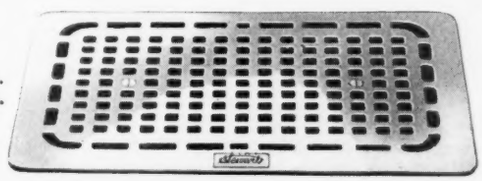
The New!
STEWART-WARNER
RAIL-TYPE *for*
Busses, Trucks Etc.

This new Stewart-Warner Heater—in two sizes—like the floor-type—has a drawn steel heating unit—heating up quickly and utilizing all the heat—but dash controlled to any degree.

May be placed to benefit the driver or under seats, also serving as a foot rail. 26 in. long by 3¼ in. high AND 22 in. long by 3¼ in. high.

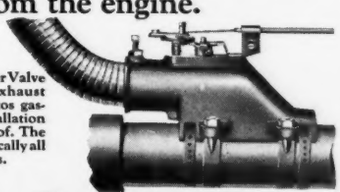
Finished in high lustre black enamel.

2 Sizes
26⅜ x 7¼ in.
14½ x 10¼ in.



FLUSH FLOOR TYPE

The Stewart-Warner Floor type heater has for years been noted for its quick heating qualities and its dash control feature whereby the heat may be regulated to any degree. While used on automobiles of every type it is also well adapted for use in Busses as its drawn steel heating unit radiates all the heat coming from the engine.

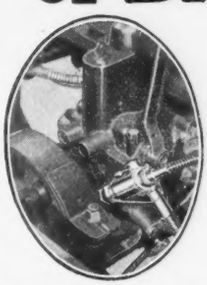


The Stewart-Warner Valve installed on the exhaust pipe. Heavy asbestos gaskets make this installation absolutely leak-proof. The one valve fits practically all makes of cars.

Stewart-Warner
Speedometer Corporation
1826 Diversey Parkway, Chicago, U. S. A.

The Ohmer Odometer installed on the instrument board.

Increases Earnings of Drivurself cars



On passenger cars, the speedometer power outlet is used to engage the Ohmer reducing gear box which drives both speedometer and Ohmer Odometer. One outlet leads to the speedometer, transmitting the original power impulse of 1009 revolutions per mile; another to the Odometer, transmitting power at only 63 revolutions per mile. This reduction in speed removes the destructive influence of vibration and friction.

When the Odometer is placed below the floor boards, the figures are read from above the floor, but can be concealed by the floor rug or mat.

LOOK FOR THIS SIGN

Mileage records that are infallibly accurate—trouble-free service in the hardest kind of driving—unusually large figures that can be read at a glance—ease of installation—and low first cost—

—these are just some of the things you get in the Ohmer Odometer.

Thus it meets a definite need for a rugged, dependable mileage meter on Drivurself Cars.

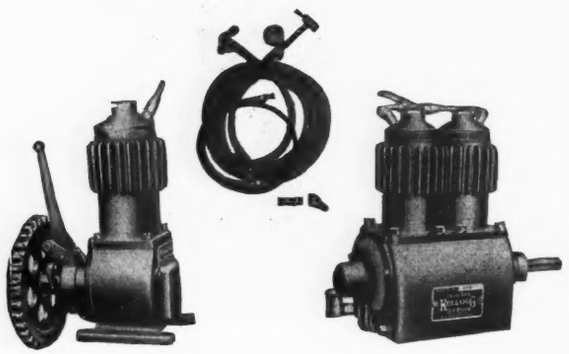
Its mileage counter mechanism travels only 20 feet in each mile—no wear out to it. It may be installed on the dash, in the floor, or on the seat support. And you may have concealed dial readings if you wish. For these and other reasons, the Ohmer Odometer is more and more coming to be recognized as the ideal mileage counter for Drivurself Cars.

It is the same sturdy counting mechanism that has given ten years' uninterrupted service on thousands of Atco Taximeters, conclusively proving its durability and reliability. We'd like to tell you how it would quickly pay for itself on your fleet of cars or trucks. We'd like to show you what its scores of users think of it. Write for all the facts.

OHMER FARE REGISTER COMPANY
Dept. B-1, Dayton, Ohio, U. S. A.

OHMER
ODOMETER

KELLOGG
Engine Driven Tire Pumps



Kellogg Manufacturing Co.

ROCHESTER, N. Y.

NORTHEASTER

$7.50

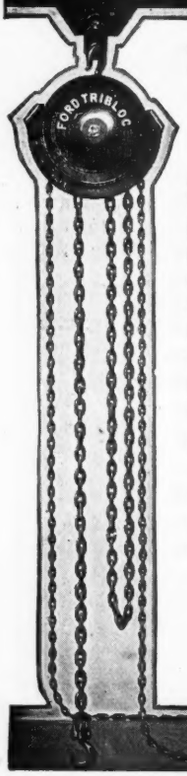
A Real Magnetic Horn at a *Low* Price

© NEECO 1925

The Horn That Lasts

NORTH EAST ELECTRIC CO. *The Standard for Dependability and Long Life* NORTH EAST SERVICE INC.
Starting, Generating & Ignition Equipment - Horns - Speedometers
ROCHESTER · ATLANTA · CHICAGO · DETROIT · NEW YORK · KANSAS CITY · SAN FRANCISCO · PARIS · LONDON · TORONTO

FORD TRIBLOC



Not just "good enough" but a little better than "just right"

Among other tests, every Ford Tribloc Chain Hoist must pass an individual load test before it is released for shipment—one of the reasons why Ford Hoists will be found in every kind of plant from food factories to steel mills—wherever reliable performance is more important than a hoist that is "good enough."

They are powerful—safe—durable—the kind of a hoist that meets the strict Government specifications and the comparative endurance tests of railroads.

Write for Catalog 7-B

FORD CHAIN BLOCK CO.
Second and Diamond Sts.
Philadelphia, Penna.

(2275-D)

Suggest to Your Next Customer That He Use the

Motor Transport Standard Cost System. A simple convenient and inexpensive method of keeping close tabs on trucks and drivers.

It costs only $9.50 for 500 Driver's Cards, 60 Monthly Summary Sheets, 1 Complete Instruction Book, 1 Binder.

CHILTON CLASS JOURNAL COMPANY

Chestnut and 56th Sts. Philadelphia

Gasoline Reduced to 2c Per Gallon

The truck illustrated above goes 60 miles on a charge.

Operated at 10% of Gasoline cost.

Runs 5 miles per hour faster.

No Residue. No Carbon.

No Dilution.

50% Saved in Lubricating Oil.

Distributors: Write for territory.

DEALERS: There's a selling point to think about. And there are many others—some of them listed in the panel at the left of this advertisement, and the rest ready for you to have in full for the asking.

The McDonnell Generator

Eliminates the necessity for any kind of fuel in operating motor trucks, except the gas it generates itself. Water, red hot charcoal and air do the work. The resulting combustible gas can then be used in the engines of motor trucks, tractors, boats and stationary engines without any alterations thereto beyond the removal of the carburetor and the coupling up of the feed pipe from the gas generator.

Here's something to know about. TEN TIMES CHEAPER THAN GASOLINE! *Ask us to tell you more.*

Gas Generator Distributing Co.
Chicago 2050 Archer Avenue Illinois

THE ENGINE DOES THE WORK!
"AND UP SHE GOES"

Hoisting a 5-ton tank with a "SILENT HOIST" Vertical Capstan mounted in back of the driver's cab driven from the truck engine.

—A simple, safe, satisfactory and low priced winch for hoisting and pulling in any direction.

—o—

Pulls the truck out of ditches; Pulls and hoists heavy Machinery Safes Smoke-Stacks Stones, etc.

—o—

Have you data on Silent Hoist Motor Truck Power Winches Cranes and Derricks?

—o—

SILENT HOIST CO.
302 McDougal St.
BROOKLYN, N. Y.

[FOR OUR AGENTS]

Selden Motor Trucks

"In-Built Quality Model" for Every Haulage Need

Two 6-cylinder speed models. PACE-MAKER, 1¼-tons capacity; ROAD-MASTER, 2¼-tons capacity.

Heavy-duty, 4-cylinder models in 2, 2½, 3, 3½, 4 and 5-7 tons capacities.

DUAL-RANGE TRANSMISSION having 7 speeds forward and 2 reverse available in all heavy-duty models from 2½ tons up. Provides super-pulling ability and increased road speed.

SPECIAL 6-CYLINDER MOTOR-BUSES FOR CITY AND INTERURBAN SERVICE.

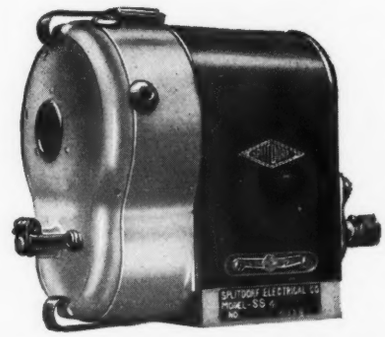
Exclusive selling rights granted dealers. Write for particulars—grasp this opportunity to increase your yearly profits.

Selden Truck Corporation
ROCHESTER, N. Y.

Buyers reorder only when they get value and satisfactory service. We point with pride to the fact that practically every customer we ever had on Weatherproof Cabs is still with us. Two models fit all chasses. Send today for literature and prices.

Weatherproof

Weatherproof Body Corporation
438 Shiawassee St., Corunna, Michigan
Builders of Truck Cabs, Bus Bodies, Automobile Tops, Passenger *and* Commercial Bodies

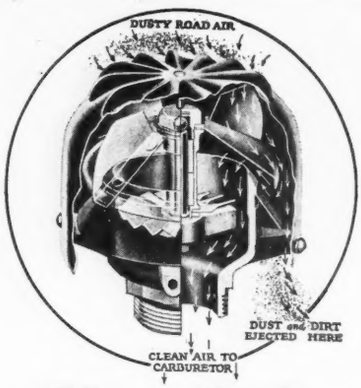


Dependable— Always!

No matter whether it be ignition for airplanes, automobiles, trucks, buses or tractors—
No matter how many cylinders are to be fired: Sixteen, twelve, eight, six, four, two or one—
Splitdorf Magnetos always can be relied upon for the never-failing service that has made the name *Splitdorf* a synonym for *Dependability.*

SPLITDORF ELECTRICAL CO.
392 High Street **Newark, N. J.**
Subsidiary of Splitdorf-Bethlehem Electrical Company

TRADE SPLITDORF MARK ESTABLISHED 1909



Where Motor Performance Counts Most

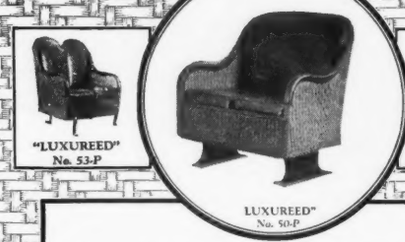
With any manufacturer or user of car, truck, tractor, bus or industrial engine, you are sure to find the air cleaner now recognized as a necessity.

The UNITED AIR CLEANER

is the oldest and most widely adopted standard equipment on Franklin, Chrysler, Jordan and other fine cars. Also on White, Kelly, Republic and other good trucks. Simplest, most efficient. Requires no oil, no water, no emptying, no cleaning, no adjustment, no attention whatever.

Guaranteed for the life of the motor
Made in sizes to fit any motor **Write for prices**

United Manufacturing & Distributing Co.
9704 Cottage Grove Ave. **CHICAGO, ILL.**



These New Seats Add Comfort to Motor Coach Travel

HEYWOOD-WAKEFIELD'S No. 50-P is a new and welcome member of the *"Luxureed"* family of Motor Coach seats. This substantial seat has a double steel base. Duplex padded backs and removable comfy cushions over coil spring construction insure maximum passenger comfort. Covered arms lend the added impression of club car luxury and contribute to the comfort of the chair. Like all other Heywood-Wakefield Reed Motor Coach seats the *"Luxureed" No. 50-P* may be finished and upholstered in colorings to match its surroundings.

The *"Luxureed"* line is but one of the H-W Motor Coach seat innovations, each designed by experts to meet the demands of a particular and exacting service. Heywood-Wakefield's 99 years of seat-building experience is at your service without charge.

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HEYWOOD-WAKEFIELD 516 W. 34th St., New York
HERBERT G. COOK Hobart Bldg., San Francisco, Cal.
F. N. GRIGG 630 Louisiana Ave., Washington, D. C.
THE G. F. COTTER SUPPLY CO., Houston, Tex.
THE RAILWAY AND POWER ENGR'G CORP., Montreal & Toronto, Canada

Heywood-Wakefield
REG. U.S. PAT. OFF.

U S MOTOR TRUCKS
FLOATING POWER PLANT

A Better Year

We are about to usher in a new year—1926. It is to be a truck year, of that there is no doubt. The railroads, the public utilities, private corporations and individuals are thinking and talking trucks as never before. Are you getting ready to cash in on this ever growing market? What will you sell? We are ready with a new 1926 franchise that guarantees profits. Let us tell our story to you. It costs nothing and may make you new profits.

Write or Wire Us Today

The United States Motor Truck Co.

CINCINNATI, OHIO

Established 1909 **Capitalization** $1,750,000

It cures
SPEEDMANIA

(Some of the best drivers in the country suffer from this incurable affliction.)

"Of course, the only thing to do is to fire them . . . and yet, they're so reliable that anyone hates to think of doing this.

"But this speeding has got to be stopped! How? H-m-m, wait a minute! What's this about K. P. Governors? Oh, yes! That's the Governor the Post Office Department adopted after rejecting all the rest. Yep! Its the one that regulates speed without loss of power.

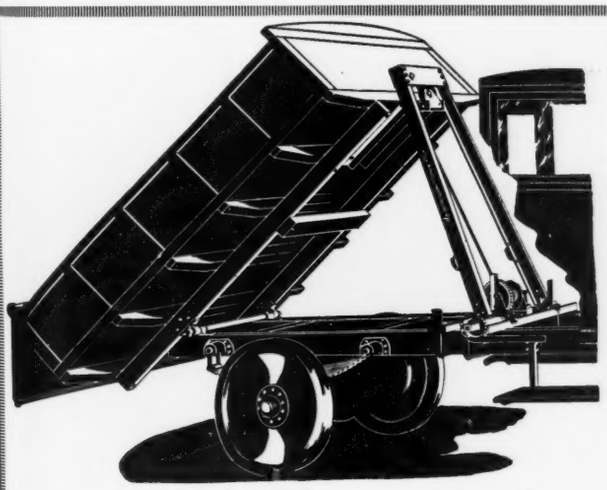
"Well, if Uncle Sam's adopted the K. P. no one else can go far wrong in doing the same thing. It'll save a lot of money, too, in worn out motors and wrecks and accidents.

"Let's see . . . first thing to do is ask for details. There's a model for every kind of a truck . . . better write right now . . . Miss Jones, send our name and address to:

K. P. PRODUCTS CO., INC.

60 Beaver Street New York

K·P. Governor
GOVERNS WITHOUT LOSS OF POWER



ROCK HAND HOIST

A well designed and carefully built hand hoist for motor truck dump bodies.

Cut gears are used on the winch.

Can be mounted on any width of chassis without change.

TYPE G for bodies up to 1½ ton capacity, occupies 5" to 6½" space. Price without body hinge....$58.00
With body hinge $65.00

TYPE K for bodies up to 5 ton capacity, occupies 7" to 8¼" space. Price without body hinge.....$75.00
With body hinge $85.00

PRICES F. O. B. WATERLOO, N. Y.
Gov't tax to be added

ROCK MANUFACTURING CO., Waterloo, N. Y.

BOWEN SYSTEM

For All Motor Cars and Trucks

AN AUTOMATIC system of lubrication that enables the owner to perfectly oil every chassis bearing in a few seconds without leaving the driver's seat.

It banishes forever that old familiar bugbear—dirty, ineffective, makeshift lubrication. No more disagreeable, messy jobs filling grease or oil guns or similar devices and tediously applying to each bearing in turn.

A mere pressure of the foot on the lubricator button—projecting up through the floor boards—and every chassis bearing is automatically and simultaneously flooded with a shot of oil forced in under heavy pressure.

The volume of oil forced into each bearing is measured—one drop or a teaspoonful according to exact requirements, insuring adequate and perfect lubrication without waste.

Manufactured by

Bowen Products Corporation
Auburn, New York

The BOWEN SYSTEM is standard equipment on the CLEVELAND SIX, all models

ACME Flyer

ACME THE TRUCK OF PROVED UNITS

Trade-mark registered U. S. and other countries.

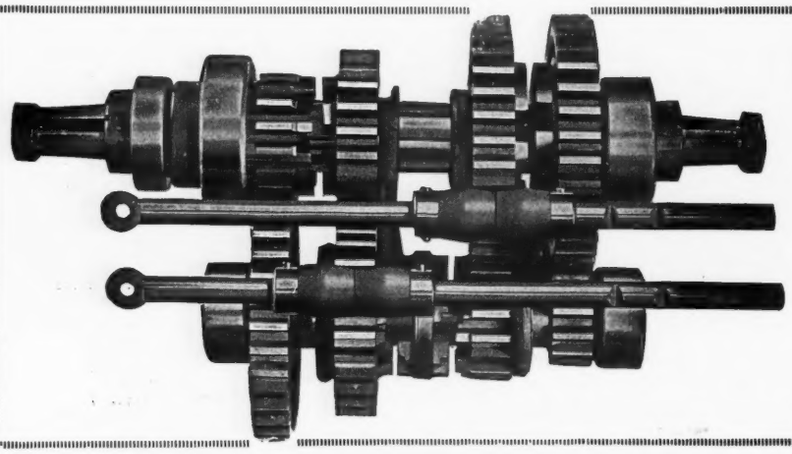
— 6 Sizes —
A truck for every job

Put Your Business on a Paying Basis

The speed, power and life built into the Acme Flyer makes it indispensable to every organization adopting it. Built for business service at a business price.

Write for Facts and Catalog

ACME MOTOR TRUCK COMPANY
631 Mitchell Street Cadillac, Michigan



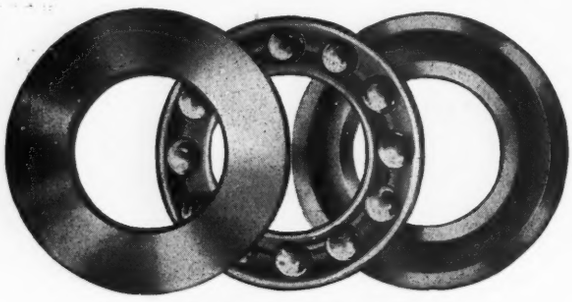
COTTA GEAR CO.

INDIVIDUAL CLUTCH
TRANSMISSIONS
FOR
3½, 5 and 7 Ton Trucks

Notice the short, compact and husky construction.

Long bearings in the loose gears.

COTTA GEAR CO., Rockford, Ill.



WESTERN SALES OFFICE
1012 Ford Building
DETROIT, MICH.

The Bearings Co. of America

Your present Thrust Bearings sizes duplicated.
Thrust Ball Bearings made to your blueprints.
Quotations made promptly on all inquiries.

The Bearings Co. of America
Lancaster Pennsylvania

Simple

The entire joint is lubricated through a single opening. It is easily assembled without the use of special tools.

Economical

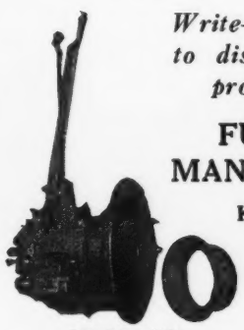
Leak-proof construction permits less frequent lubrication. Only seven simple, inexpensive parts are required for a complete replacement.

BLOOD-BROTHERS MACHINE COMPANY
Pioneer Makers of Universal Joints and Drive Shaft Assemblies
ALLEGAN, MICHIGAN

Current Coin—

is everywhere accepted at its face value—just so FULLER TRANSMISSIONS. Bus buyers accept their listing in your specifications as evidence of full transmission value.

Fuller Transmissions have been known to the industry for more than 20 years as QUALITY FIRST units—always up-to-date in design. Witness our new bus units.



Write—we will be glad to discuss transmission problems with you

FULLER & SONS MANUFACTURING CO.

KALAMAZOO, MICH.

San Francisco
Reading, Pa.
London, England

Members of the Motor Truck Industries, Inc. of America

PIERCE
GOVERNORS
KEEP YOUR TRUCKS ON THE JOB
"ONE MOTOR TRUCK ON THE JOB IS WORTH TWO TRUCKS IN THE REPAIR SHOP"
Trucks equipped with Pierce Governors cannot be driven at reckless speeds. They are therefore longer lived, make fewer trips to the repair shop, and can be operated more economically.
That is why so many Truck Manufacturers supply Pierce Governors as regular equipment.
The Pierce Governor Company
WORLD'S LARGEST GOVERNOR BUILDERS
Anderson-Indiana U·S·A·

Lifting is Wasting Your Profits!

Hours of time and helpers' wages can be saved in your shop with a CANTON PORTABLE FLOOR CRANE AND HOIST. It makes overhauling an engine, or a rear axle, a ONE-MAN JOB.

With our No. 3 you can reach any part of a chassis. It is overstrong, perfectly balanced, powerfully geared. Wheels have Hyatt bearings.

Special semi-steel cast construction, reinforced with wrought iron. Drop forged hook, block and tackle. Guaranteed BBB hand forged chain.

Write for booklet giving details and interesting testimonials.

Canton Foundry & Machine Co.
CANTON, OHIO
New York Office: 203 E. 15th St.
Manufacturers of Universal Auto Turntable

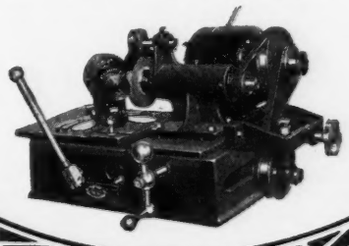
SIOUX
Trade Mark Reg. U.S. Pat. Office

Valve Face Grinding Machine

With amazing ease, speed and accuracy, it grinds and refaces any valves up to 4½" diameter, removes carbon, sharpens valve seat reamers, grinds valve stem ends, etc. Nothing like it. Before you buy *any* valve grinding machine it will pay you to investigate the "Sioux."

Your Jobber Sells It

Albertson & Co., Sioux City, Ia.



Advertiser's Index

A

Acme Motor Truck Co. 122
Albertson & Co. 123
American Malleable Castings Association 98
Atterbury Motor Car Co. 78

B

Baker Manufacturing Co. 110
Bearings Co. of America 122
Bethlehem Steel Co. 57
Blood-Brothers Machine Co. 122
Bosch, Robert, Magneto Co., Inc. .. 106
Bowen Products Corporation 121
Buck Motor Truck Co. 102
Buda Co. 90

C

Canton Foundry & Machine Co. 123
Chilton Class Journal Company 108, 109
Clark Equipment Co. .... Second Cover
Commerce Motor Truck Co. 107
Continental Motors Corporation Back Cover
Cotta Gear Co. 122

D

Dayton Steel Foundry Co. 95
Ditwiler Manufacturing Co. 1
Dixon, Joseph, Crucible Co. 112
Duplex Truck Co. 105

E

Eaton Axle & Spring Co. 63
Eisemann Magneto Corporation ... 71
Elite Manufacturing Co. 113

F

Fisk Tire Co., Inc. 112
Ford Chain Block Co. 118
Fuller & Sons Manufacturing Co. .. 123

G

Garford Motor Truck Co. 99
Gas Generator Distributing Co. 119
General Woodwork Corp. 69
Goodrich, B. F., Rubber Co. 77
Gotfredson Corporation, Motor Truck Division 116
Graham Brothers (A Division of Dodge Brothers, Inc.) 87
Gramm-Bernstein Truck Corp. 113
Gramm & Kincaid Motors, Inc. 73

H

Hale-Kilburn Co. 70
Heywood-Wakefield Co. 120
Highland Body Mfg. Co. 81
Hinkley Motors, Inc. 114
Hughes-Keenan Co. 97
Hyatt Roller Bearing Co. 126
Hydraulic Hoist Manufacturing Co. 89

I

Indestructible Wheel Co. 79
International Harvester Co. of America, Incorporated 6
International Motor Co. 84

J

Johns-Manville, Inc. 85, 86

K

K.P. Products Co., Inc. 121
Kellogg Manufacturing Co. 118

L

Lee Tire & Rubber Co. (Republic Division) 88
Lehigh Co. 65, 66, 67, 68
Lycoming Manufacturing Co. 101

M

McGarry, John A., Co. 115
Mack Trucks, Inc. 84
Marlin-Rockwell Corp. (Successor to Strom Ball Bearing Mfg. Co.) ..... Front Cover
Master Motor Truck Co. 91

N

Naceskid Service Chain Co. 111
New Departure Manufacturing Co. 5
North East Electric Co. 118

O

Ohmer Fare Register Co. 117

P

Parish Manufacturing Corp. 115
Pierce Governor Co. 123
Piston Ring Co. 125
Portland Cement Association 114
Powell Muffler Co. 111
Prest-O-Lite Co., Inc., The 74, 75

R

Racine Radiator Co. 116
Republic Motor Truck Co., Inc. Third Cover
Republic Rubber Co. 88
Rock Manufacturing Co. 121
Ross Gear & Tool Co. 59
Ruggles Motor Truck Co. 61

S

Salisbury Axle Co. 115
Schacht, G. A., Motor Truck Co. 94
Selden Truck Corporation 119
Service Motors, Incorporated 2
Shuler Axle Co., Incorporated 103
Silent Hoist Co. 119
Spicer Manufacturing Corporation 115
Splitdorf Electrical Co. 120
Stewart Iron Works Co., Incorporated 72
Stewart-Warner Speedometer Corp. 117

T

Thompson Products, Inc. 92, 93
Timken-Detroit Axle Co. 104
Timken Roller Bearing Co. 4

U

United Mfg. & Distributing Co. 120
United Motors Products Co. 83
United States Motor Truck Co. 121

V

Veeder Mfg. Co. 3

W

Walker Vehicle Co. 96
Ward Motor Vehicle Co. 52
Weatherproof Body Corporation 120
White Co. 80
Willys-Overland, Inc. 100
Wood Hydraulic Hoist & Body Co. 76

Z

Zenith-Detroit Corporation 82

The QUALITY DRAINOIL Piston Ring

A Study in Logic

THERE should be no problem in selecting the right piston ring to regulate the flow of the surplus oil. Just study the conditions to be overcome and with practical engineering logic—apply the right principle.

This right principle is the DRAINOIL.

Test it out or reason it out. Either way you will agree DRAINOIL does everything it is possible for an oil regulating piston ring to do.

The up-slanting oil slots have the proper width, length and spacing, while the ring itself is that same high standard of design, material and workmanship that is guaranteed in all QUALITY BRAND piston rings.

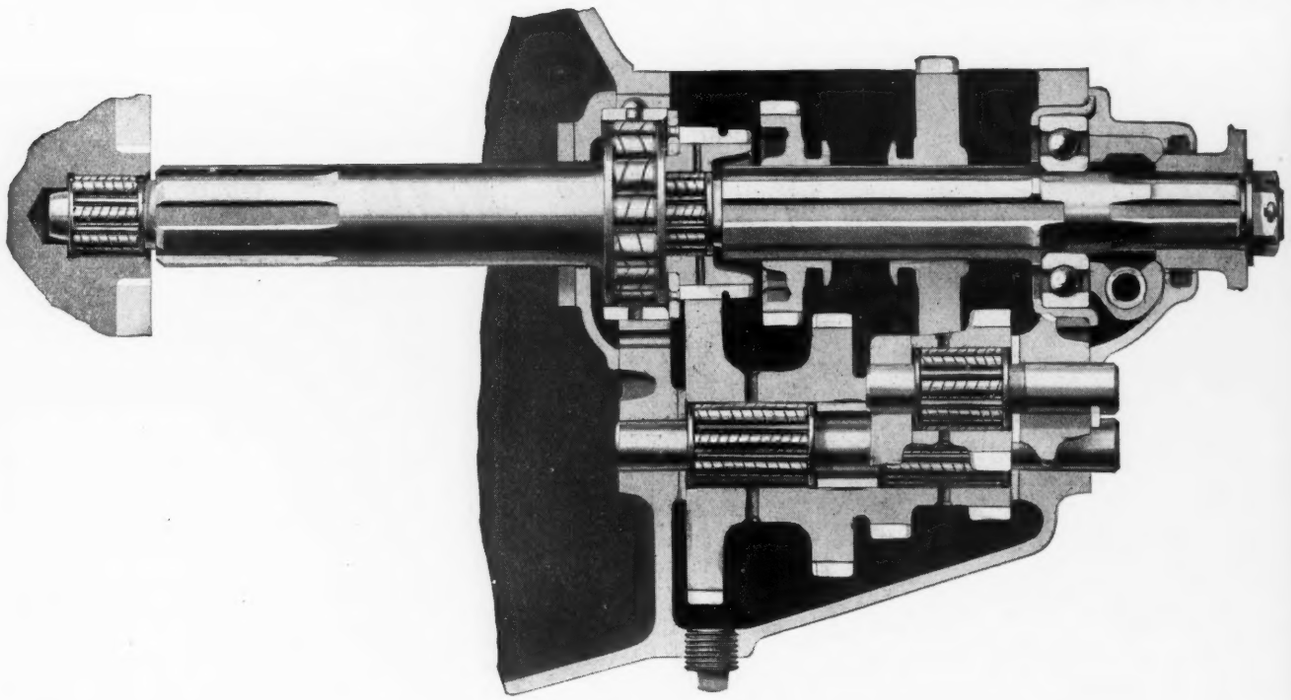
Installed only in lowest piston groove DRAINOIL'S razor edged oil slots scrape all surplus oil from cylinder wall, force it through oil slots to oil relief holes drilled through inner wall of piston groove and thence back to crankcase.

DRAINOIL always leaves a smooth unbroken oil film for proper lubrication.

SERVICE DIVISION—OIL RING DEPARTMENT

The Piston Ring Company

Muskegon, Michigan



Hyatt Bearings Improve Transmissions at Low Cost

Manufacturers in increasing numbers are adopting Hyatt Roller Bearings for their transmissions because time and experience have shown them to possess in high degree these superior advantages:

1. Quietness due to dampening of gear noise.
2. Maintenance of quietness due to minimum wear.
3. Ease of assembly.
4. Uniform production output.
5. Elimination of extra locking and adjusting parts.
6. Elimination of threading of shafts.
7. Positive lubrication of all parts.
8. Permanence due to durability.

THE SIGN OF OFFICIAL HYATT SERVICE

AUTHORIZED UNITED MOTORS SERVICE HYATT ROLLER BEARINGS

By building your transmissions fully Hyatt-equipped you secure all of the advantages listed herewith. Hyatt Bearings simplify production operations and thereby reduce costs. You will find, too, as other manufacturers have already found, that Hyatt Bearings build and keep the profitable good will of both dealers and customers through their appreciation of quiet, economical and enduring transmission performance.

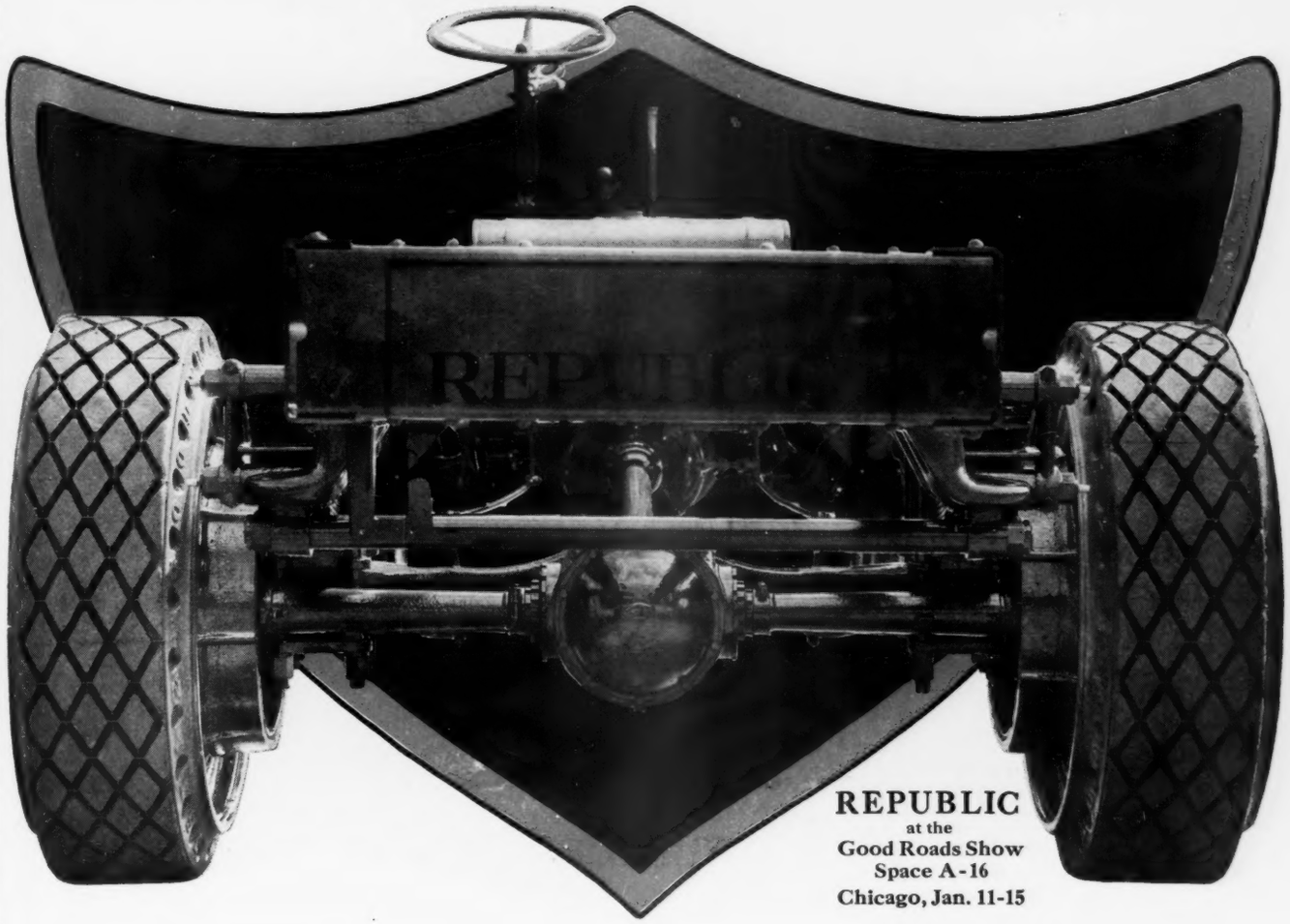
HYATT ROLLER BEARING COMPANY

NEW YORK DETROIT CHICAGO SAN FRANCISCO
WORCESTER PHILADELPHIA CHARLOTTE
PITTSBURGH CLEVELAND

HYATT

Quiet

Roller Bearings



REPUBLIC
at the
Good Roads Show
Space A-16
Chicago, Jan. 11-15

"Mini-Mile" Paths to Economy

The Republic Mini-Mile embraces *all* the factors of trucking costs — and returns a profit on them. The Mini-Mile cuts through first cost, overhead, fuel costs and maintenance costs — levels them all to a rock-bottom minimum.

The Mini-Mile story is written in every single detail of Republic construction — it is read on every highway. For the steep unfriendly hill, power that is never-to-be-denied. For the dangerous down-grade, brakes of the most competent type ever used in trucking. For the emergency load that must be carried, a chassis that endures by reason of a deep bridge-strong frame, heavier axles, larger tires, huskier springs and "muscular development" throughout the Republic line.

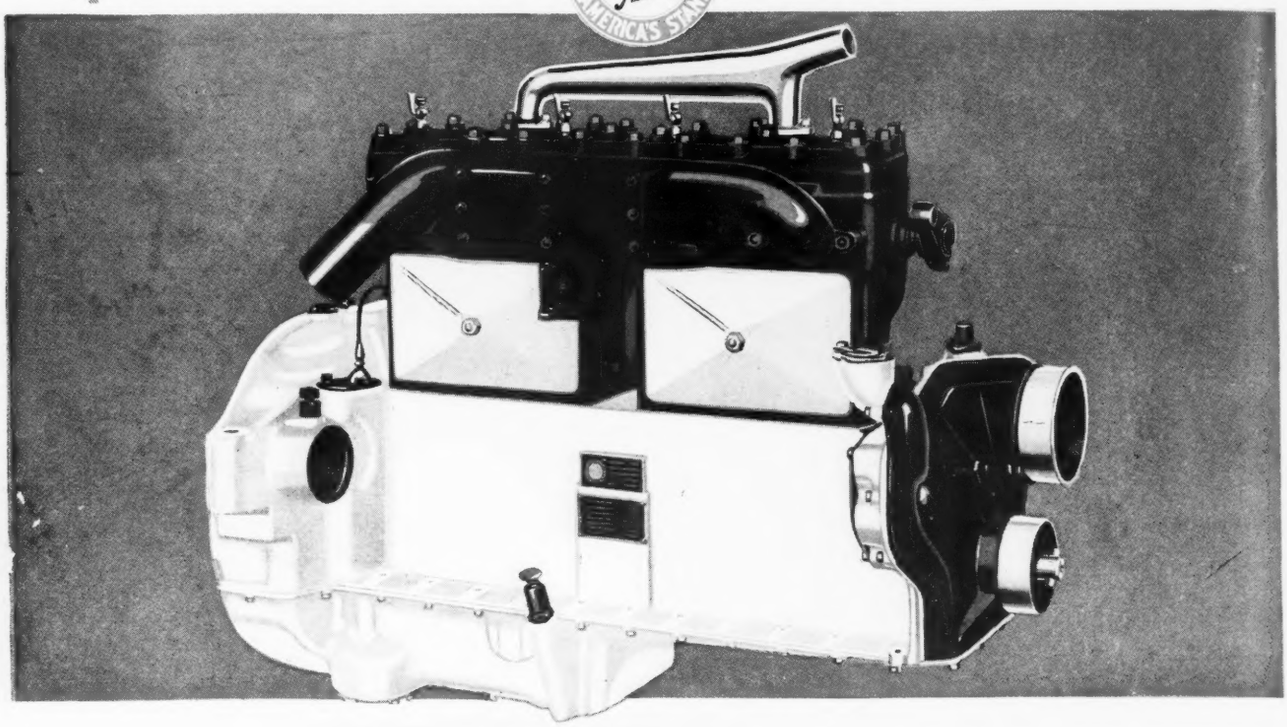
Check the Republic specifications, point for point, against your present highest ideas of truck value. Then know that you buy Republic for less than other high-grade trucks.

A newer view of transportation economy awaits you at the Republic dealer. In the complete new Improved Republic line there is a model that will better your business.

REPUBLIC MOTOR TRUCK CO., INC., *ALMA, MICHIGAN*
More Trucks in Use than any other Exclusive Truck Builder

REPUBLIC *Yellow Chassis* TRUCKS

Dependable Power for Every Purpose



The 2750000*th* Motor

Continental's successful record of a quarter century as a builder of gasoline motors is marked and emphasized by the production of the 2,750,000th motor, just completed.

It is not the high serial number of this motor, however, that so strongly reflects Continental's record of accomplishment, but rather the significance of having for so long a period successfully paced the automotive industry, making motors in hundreds of different designs for every field where gasoline power is a factor.

Along with this manufacturing feat has gone undisputed leadership in Continental's specialized field.

Continental is now building, and has for many years built motors for America's leading trucks.

CONTINENTAL MOTORS CORPORATION

Offices: Detroit, Michigan, U. S. A. *Factories:* Detroit and Muskegon

The Largest Exclusive Motor Manufacturer in the World

Continental Motors